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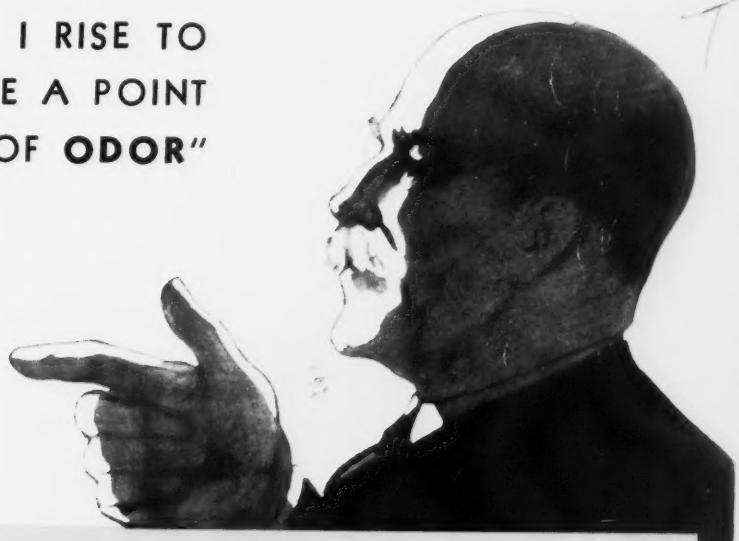
SOAP

DECEMBER 1936

"MR. CHAIRMAN,
I RISE TO
MAKE A POINT
OF **ODOR**"

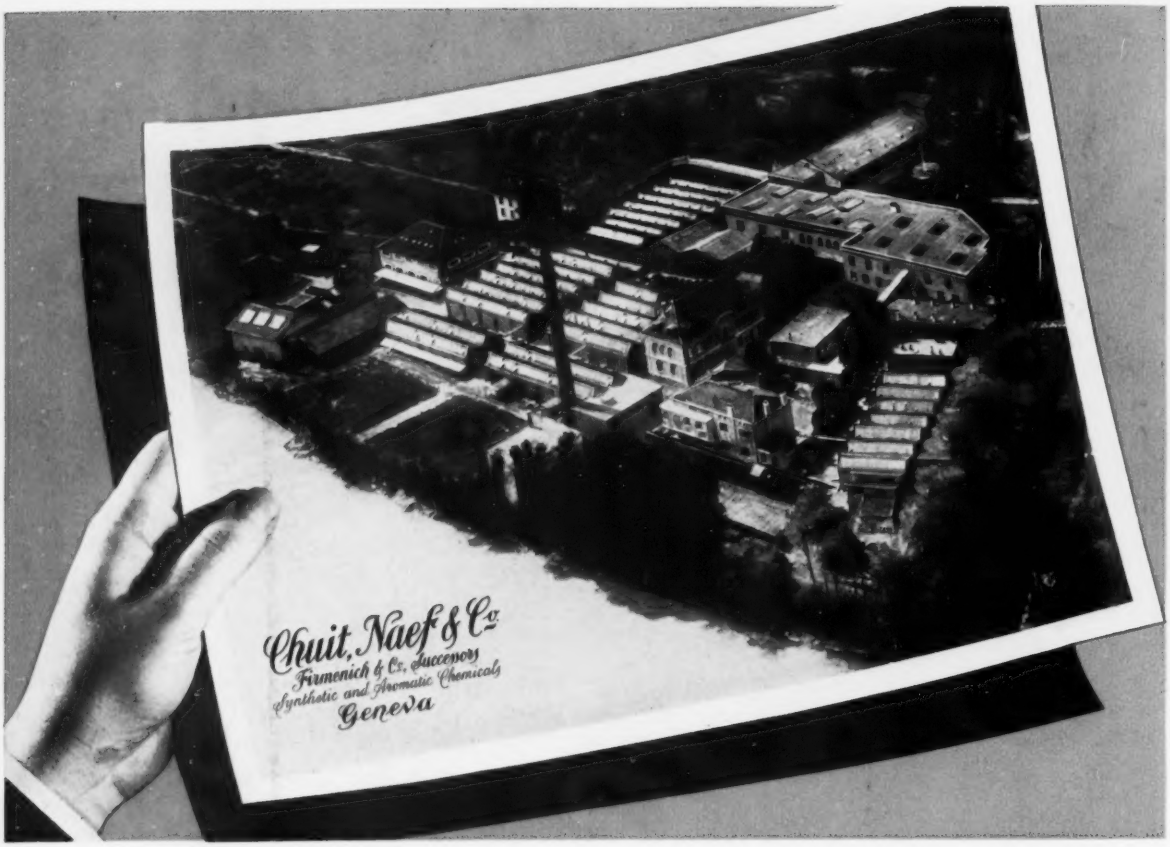


Many new and interesting subjects will be discussed at the convention of insecticide manufacturers this year, and odor will be among the most important . . . for good odor is essential in modern insecticides, disinfectants and other exterminating products.

In selecting the right odors for your products you need the cooperation of experienced men. Givaudan is a pioneer in the field. We have developed odors to meet not only general but specific needs. For proof of our progressiveness see page 84 of this issue of SOAP.

GIVAUDAN
DELAWANNA INC.
80 FIFTH AVENUE, NEW YORK, N. Y.

SOAPS
INSECTICIDES
DISINFECTANTS
CHEMICAL SPECIALTIES
SANITARY SUPPLIES
POLISHES
CLEANERS



FORTY YEARS OF LEADERSHIP

Since 1895 the name of Chuit, Naef has been synonymous with the production of the highest quality group of synthetic and aromatic chemicals obtainable. Today, as then, this reputation continues unmatched.

Throughout forty years the Chuit, Naef organization has expanded its products to the point where they now rank as the most complete line of perfume raw materials available to the soap, perfume extract and toilet goods fields.

The laboratories at Geneva, Switzerland are constantly *showing the way* in the development of new aromatic materials, basic specialties and finished compositions that aid *you* in solving your perfume problems.

As sole United States agents, let us convince you of the remarkable adaptability of our products to your line!

FIRMENICH & CO. INC.

135 FIFTH AVENUE, NEW YORK, N. Y.

Drain Pipe Cleaner
Closet Bowl Cleaner
When it comes to that steady business from removing stains, odors and obstructions from drains and commodes, depend on the two Fuld leaders that "take it away."

Fuld "Thirty-Sixers" Celebrate by

Painting the Town

He's got HIS OWN BRAND of Merry Christmas and Happy New Year—and he wishes everybody else the same. When he paints the town, he paints it with something that means money in his pocket—HIS OWN NAME. Start the new year with the complete line of Fuld Sanitary Chemicals UNDER YOUR OWN LABEL.

WHAT FULD MAKES for the LEADERS

LIQUID CLEANERS
- Pine Scrub Soap
- Liquid Scrubbing Compound
- Sassafras Scrub Soap
- Floor Bleach
- Rug Shampoo

INSECTICIDES
- Roach Powders
- Fly Sprays
- Cattle Sprays
- Pyrethrum Sprays
- Moth Spray
- Rat Exterminators
- Sprays for Special Purpose Concentrates

FLOOR WAXES and SEALS
- Self-Polishing Wax
- Liquid Wax
- Wood Seal
- Gym Seal
- Terrazzo Seal
- Wax-Var
- Paste Wax
- Dance Floor Wax

CONTAINERS
- Urinal Strainers
- Wall Containers
- Soap Dispensers

CLEANING COMPOUNDS
- Washing Compounds
- Window Cleaner
- Scouring Compounds
- Fabric Cleaners
- Weed Killers
- Waterless Cleaner
- Beer Coil Cleaner
- Paint & Varnish Remover
- Sterilizing Agents
- Tile Bleach

LIQUID DEODORANTS
- Chlorozif
- Forma Chloro Sprays
- Theatre Sprays
- Pine Deodorant
- Drip Machine Fluid

LIQUID and BASE SOAPS
- Liquid Hand Soaps (All percentages 10 to 40%)
- Shampoos
- Cocoanut Oil Base Soaps

OIL and SOFT SOAP
- All Percentage Oil Soaps
- Jelly Soaps

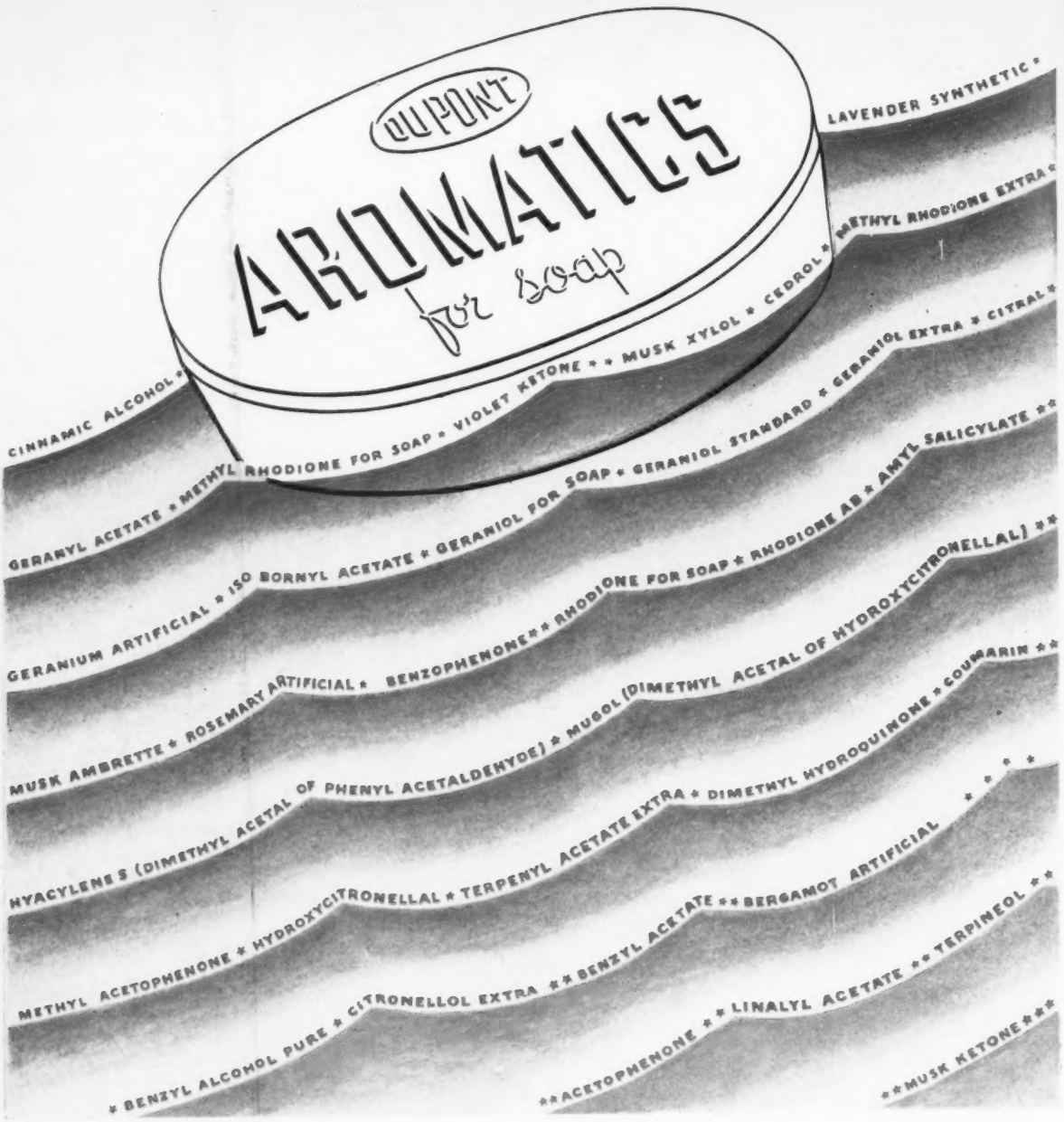
DISINFECTANTS
- Pine Oil
- Coal Tar (All Co-Efficients)
- Cresol Compounds
- Chlorine
- Powdered Chlorine

POLISHES
- Count 1234567
- Metal Polishes (Liquid, Paste & Powdered)
- Auto Polish
- Furniture Cream
- Furniture Polish
- Floor Oil
- Silver Pastes and Creams

PLUMBING SPECIALTIES
- Drain Pipe Cleaners
- Liquid & Powdered Bowl Cleaners
- Tile & Enamel Cleaners
- Boiler Compounds

DEODORANT BLOCKS and CRYSTALS
- Urinal Blocks
- Deodorant Blocks 2 to 40 oz. sizes
- Deodorant Crystals

FULD BROS.
BALTIMORE, MARYLAND


DU PONT
AROMATICS
for soap
CINNAMIC ALCOHOL *
GERANYL ACETATE * METHYL RHODIONE FOR SOAP * VIOLET KETONE * * MUSK XYLOL * CEDROL *
GERANIUM ARTIFICIAL * ISO BORNYL ACETATE * GERANIOL FOR SOAP * GERANIOL STANDARD * GERANIOL EXTRA * CITRAL *
MUSK AMBRETTE * ROSEMARY ARTIFICIAL * BENZOPHENONE * * RHODIONE FOR SOAP * RHODIONE AB * AMYL SALICYLATE * *
HYACYLENE S (DIMETHYL ACETAL OF PHENYL ACETALDEHYDE) * MUGOL (DIMETHYL ACETAL OF HYDROXYCITRONELLAL) * *
METHYL ACETOPHENONE * HYDROXYCITRONELLAL * TERPENYL ACETATE EXTRA * DIMETHYL HYDROQUINONE * COUMARIN * *
* BENZYL ALCOHOL PURE * CITRONELLOL EXTRA * * BENZYL ACETATE * * BERGAMOT ARTIFICIAL * * * *
* * ACETOPHENONE * * LINALYL ACETATE * * TERPINEOL * *
* * MUSK KETONE * *
LAVENDER SYNTHETIC *
METHYL RHODIONE EXTRA *

● To insure quality in a finished product, it is essential to use the finest ingredients obtainable and to maintain effective control throughout its production. When you use du Pont Aromatics, you are assured of the uniformity and high quality which permit proper control in the manufacture of fine soaps.

DU PONT
REG. U. S. PAT. OFF.

E. I. DU PONT DE NEMOURS & CO., INC., FINE CHEMICALS DIVISION
WILMINGTON, DELAWARE

SOAP

Volume XII
Number 12

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December, 1936

MEMBER AUDIT BUREAU OF CIRCULATIONS

SANITARY Products Section, which is included as a department of every issue of SOAP, begins on page 79. Production Section begins on page 65.

Published monthly by

MAC NAIR-DORLAND COMPANY, INC.
254 WEST 31st STREET NEW YORK, N. Y.

Subscription rate, $3.00 per year. Foreign, including, Canadian. $4.00. Copy closing dates—22nd of month preceding month of issue for reading matter and 10th of month preceding month of issue for display advertising. Entered as second-class matter, April 11, 1931, at Post Office, New York, under act of March 3. 1879. Mail circulation, November, 1936, issue, 3,458 copies. Total distribution, 3,800.

Wake up to NEW possibilities!!!

New concerns—potential customers for Sanitary Products are starting in business. Other companies are moving to better quarters. Even your old customers now have a little extra cash to spare, to keep their plants sanitary and clean. Conditions are BETTER all around.

To increase sales there's nothing that will help like a few new long-profit Clifton items (and maybe we can save you money on the ones you are now handling).

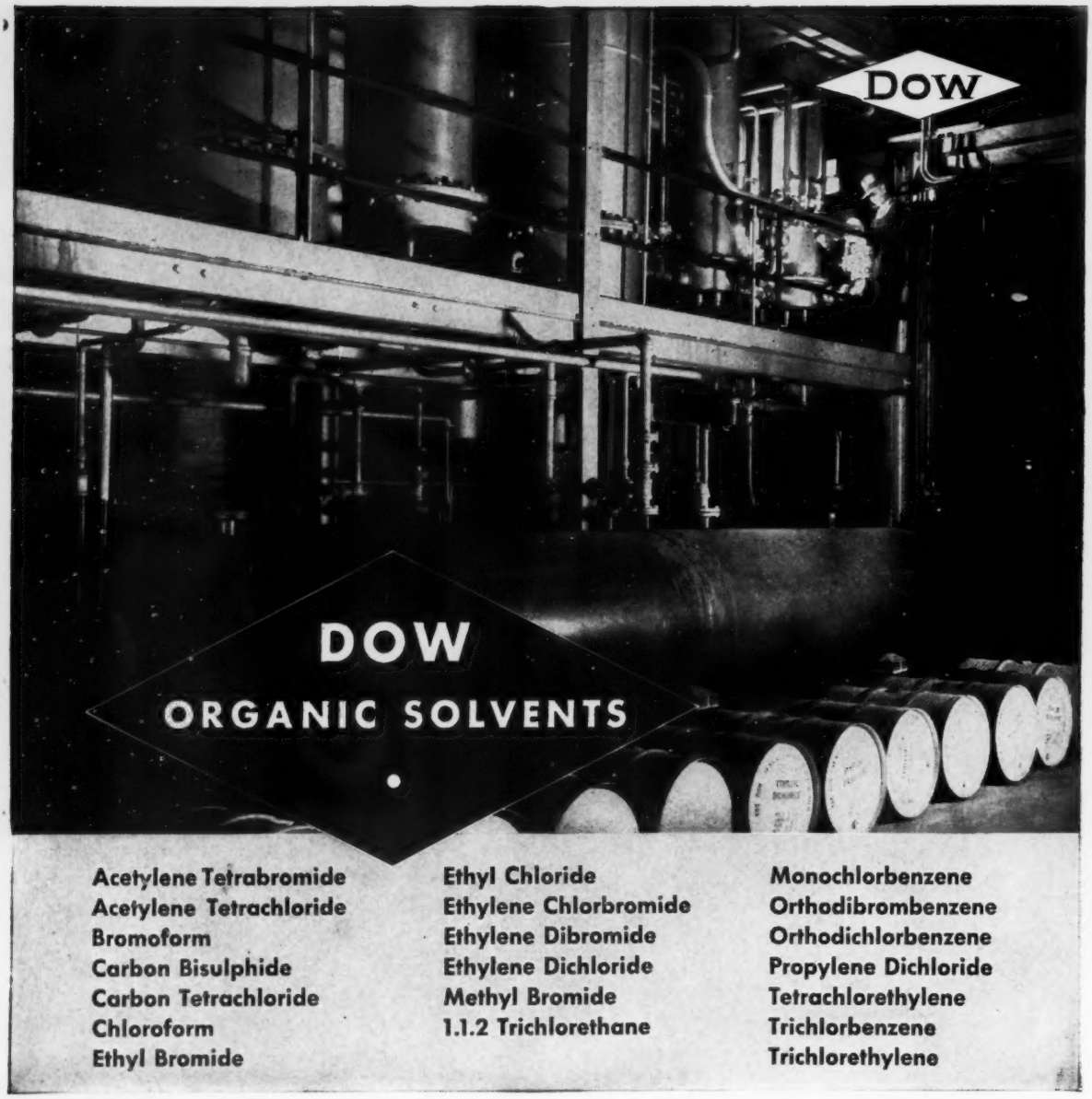
Write today . . . the only obligation is ours . . . to show how Clifton can give you top notch value and perhaps offer a few new ideas on the following products:—

Semi-Castile Liquid Soap
Foamwel Liquid Soap
Liquid Soap Base
Liquid Soap Dispensers
Cresolene Disinfectant
Bar Oil
Pine Scrub
Deodorizing Cakes
Deodorizing Blocks
Oil Soaps
Metal Polish
Spot Remover
Mopping Varnish
Rubless Wax
Furniture Cream
Insect Killer
Coal Tar Disinfectant
Pine Disinfectant
Theatre Spray
Shampoo Liquid and Base

CLIFTON CHEMICAL CO.

246 FRONT ST. NEW YORK

Seasons greetings to all our friends from the Felton Chemical Company



Acetylene Tetrabromide
Acetylene Tetrachloride
Bromoform
Carbon Bisulphide
Carbon Tetrachloride
Chloroform
Ethyl Bromide
Ethyl Chloride
Ethylene Chlorbromide
Ethylene Dibromide
Ethylene Dichloride
Methyl Bromide
1.1.2 Trichlorethane
Monochlorbenzene
Orthodibrombenzene
Orthodichlorbenzene
Propylene Dichloride
Tetrachlorethylene
Trichlorbenzene
Trichlorethylene

PRODUCING more than the twenty different solvents listed, each designed to meet the specific requirements in its field, has given to Dow a unique knowledge of solvents and their use.

For such fundamental purposes as dry cleaning and paint removal to the more involved operations of extracting fats, oils, waxes, resins and alkaloids, Dow has developed a solvent to suit the individual requirements of the user. It is this knowledge and this experience which urges users of solvents to consult Dow.

In the first place there is the justifiable belief that Dow can and will give unbiased recommendations. Coupled with this incentive is a recognition that its solvents, in every instance, represent a quality that users of chemical products have come to regard as unquestionable.

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

Branch Sales Offices: 30 Rockefeller Plaza, New York City; Second and Madison Streets, St. Louis; 135 South La Salle Street, Chicago

P. Q. SILICATE SERVICE *for your problem*

P. Q. SILICATE Service is the kind that "rolls up its sleeves and rubs shoulders" when working with you on a technical problem. P. Q. Service Men go right into the plant.

The widest selection of silicates of soda available, plus a soap making experience that began back in 1831, especially equip us to help you, whether you desire to improve an old established brand or to work up a new product.

Be assured of full cooperation when you consult P. Q. Silicate Headquarters — any time.

Established 1831

PHILADELPHIA QUARTZ CO.

General Offices and Laboratory: 125 S. Third St., Philadelphia, Pa. Chicago Sales Office: Engineering Bldg. Sold in Canada by National Silicates Ltd., Toronto.

P.Q. WORKS
ANDERSON, IND.
BALTIMORE, MD.
CHESTER, PA.
GARDENVILLE, N.Y.
KANSAS CITY, KANS.
RAHWAY, N.J.
ST. LOUIS, MO.
UTICA, ILL.

SILICATES of SODA

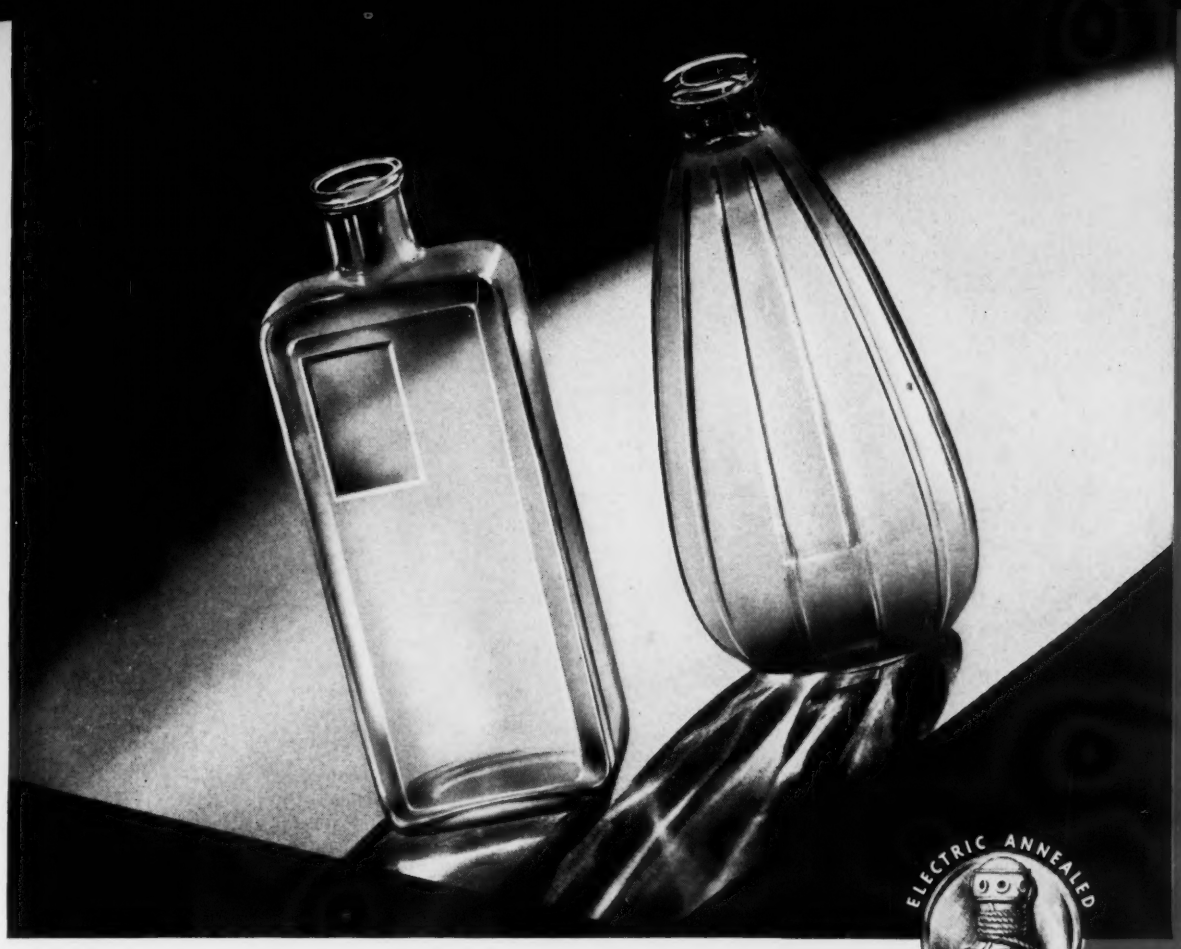
Each to its JOB
ANCHOR SHELLBACK CAPS, varying top
ANCHOR PARAGON CAPS, Screw and Snap • ANCHOR
BAND CAP • ANCHOR CLIPPER CAPS, Styles E and A
SIDE SEAL CAPS . . . Styles D, F, H, T • ANCHOR PILOT
CAP • ANCHOR HALYARD CAPS . . . for Jars and Bottles
ANCHOR AMERSEAL CAPS . . . Bottle Style . . . Jar Style . . . Gasket Lined Type . . .
2-Piece Style • ANCHOR BEACON CAP . . . Amerseal Manufacturing . . . No. 47 Bar
ANCHOR SCREW TYPE CAPS . . . C. T. Caps for bottles . . . For Jars . . . Gasket Lined . . . 2-Pc. . . . No Knurl C. T. Caps
ANCHOR MOLDED CAPS . . . Sextent Design . . . Standard Bottle Cap . . . Classic Design . . . Medium Gothic Style . . . Tall Gothic
Style . . . Jar Cap . . . Jigger Cap . . . Tamper-proof Cap . . . Applicator Caps, Styles A, D, M and P . . . Shaker Top, 2 Style

CONSIDERABLE depends on the selection of the proper closure for your products. The primary consideration, of course, is to protect all of the original quality, flavor, strength or other beneficial values in these products, to deliver them to the consumer in perfect condition. The right type of cap will do that adequately and permanently regardless of how long the interval between packaging and delivery; and in spite of any conditions of temperature, humidity, rough handling or other hazards the packages may encounter on the way.

Here are some of the factors that make selection of a closure a matter of deliberate and careful judgment. Some products are packed cold; others hot. Some require a vacuum seal and some others an air-tight, leak-proof seal. Some may require a cover cap while others must be sterilized or processed. In some cases the cost of container and closure is all important. In any case the cap selected must be easy and economical to apply on the average run of glassware, adaptable to your particular production routines and requirements. Further, it must satisfy on the grounds of appearance . . . help to round out an attractive, eye-appealing package. It must be simple for the consumer to remove and in certain circumstances provide a convenient and efficient reseal.

The many functions required of a closure explain why Anchor has developed such a variety of different types and styles . . . by far the most extensive line of caps in the world. It is this complete selection that assures you of the certainty of finding among the Anchor collection of caps one which will perfectly and completely satisfy all your sealing requirements. ANCHOR CAP & CLOSURE CORPORATION, Long Island City, New York; Toronto, Canada. *Branch offices in all principal cities.*

Caps by ANCHOR



THEY STAND THE *Limelight*

PUT these two Salem containers in the spotlight—examine them minutely or from afar—they'll win the blue ribbon on all counts. What is true of these two containers is true of other Salem styles—they are well made, of brilliant, sparkling glass, accurate in capacity and finish, tough and resistant, and moreover nicely styled as to shapes, lines and proportions. If you will let us know your needs and desires, we will be glad to submit appropriate samples. SALEM GLASS WORKS, Salem, New Jersey. *Associated with* CAPSTAN GLASS COMPANY, Connellsville, Pennsylvania. *Branch offices in all principal cities.*

CAPSTAN *Glass*

VITAMIN F In Soaps

These are the questions most often asked by soap manufacturers. The answers are given briefly and succinctly. We will gladly elaborate any phase in detail, upon request.

What Is Vitamin F?

An isomer of linoleic acid. Deficiency of vitamin F produces various undesirable epidermal symptoms.

Who Discovered Vitamin F?

Drs. George and Mildred Burr at the University of Minnesota.

Who Named Vitamin F?

Drs. Evans, Lepovsky and Murphy in the Journal of Biological Chemistry, vol. 106, 1934.

Where Does Vitamin F Occur Naturally?

In oils, particularly linseed, but INCONSTANTLY.

Why Is Vitamin F Added To Soaps?

To insure that the soaps contain a biologically effective amount of this valuable vitamin, useful in the prevention of deficiencies which manifest themselves as dryness, roughness and pre-excematous condition of the skin.

Is Addition Of Vitamin F Expensive?

No. Effective amounts of vitamin F are being incorporated very economically in many soaps today.

Note: **It is most important that you use only that vitamin F which carries certified biological assay. Sample ¼ gal. of vitamin F (50,000 units per gram), certified and biologically assayed, is now available at $10. ready for use in soaps.**

PHARMACEUTICAL SPECIALTIES CO.
A Division of
ARCHER - DANIELS - MIDLAND CO.
New York—Woolworth Bldg. — 155 E. Ohio St., Chicago
(Pioneers in the industrial production of the original cold-pressed, stabilized and biologically assayed wheat germ oil—VITAMIN E)

To PHARMACEUTICAL SPECIALITIES CO.,
Woolworth Bldg., N. Y. C., Dept. S1.
Check is attached for ¼-gallon of VITAMIN F (50,000 units per gram) at $10.
Name .....
Firm .....
Address .....

Have you investigated H-S COMPOUND*

LATHERING TEST

88 p. p. m. Hardness Water

Temperature—115° F.

2% Solutions

Shaken 20 times

Photographed 3 minutes after shaking

IT MAINTAINS *the* LATHERING POWER *of* FILLED SOAPS *with* ONE-THIRD LESS SOAP CONTENT

The photograph reproduced above tells its own story! **It's proof** that H-S Compound will enable you to use higher percentages of silicate in the crutcher formula with no sacrifice in the quality of your product . . . to attain lower manufacturing costs with no danger of a bad consumer reaction.

Nor are these the only features of H-S Compound. It eliminates the poor appearance of highly-filled soap chips . . . gives them the look of high soap content chips. It increases yields at equivalent moisture content. It prevents the separation of silicate in the crutcher or soap frame. It can be used with high rosin content soap.

Our technical staff is ready to cooperate with manufacturers interested in incorporating H-S Compound in their soaps. We invite your inquiries.

*Patent Applied For

"STANDARD"
Always a good silicate specification

STANDARD SILICATE DIVISION
Diamond Alkali Company
KOPPERS BUILDING **PITTSBURGH, PA.**

Plants at
LOCKPORT, N. Y.
JERSEY CITY, N. J.
MARSEILLES, ILL.
CINCINNATI, OHIO

THE MOST *Flexible* FILLER YOU HAVE EVER SEEN

So versatile it will fill practically *any* kind of container with almost *any* kind of material, the Stokes & Smith Universal Filler, with Gross Weight Scale, comprises four different machines in one single unit. These are:

1. *A gross weight scale with auger feed.*
2. *A volumetric filler measuring material by the volume of the package.*
3. *A volumetric filler measuring material by the turns of the auger, a very precise way for the smaller quantities.*
4. *A packing machine to compress the material into packages.*

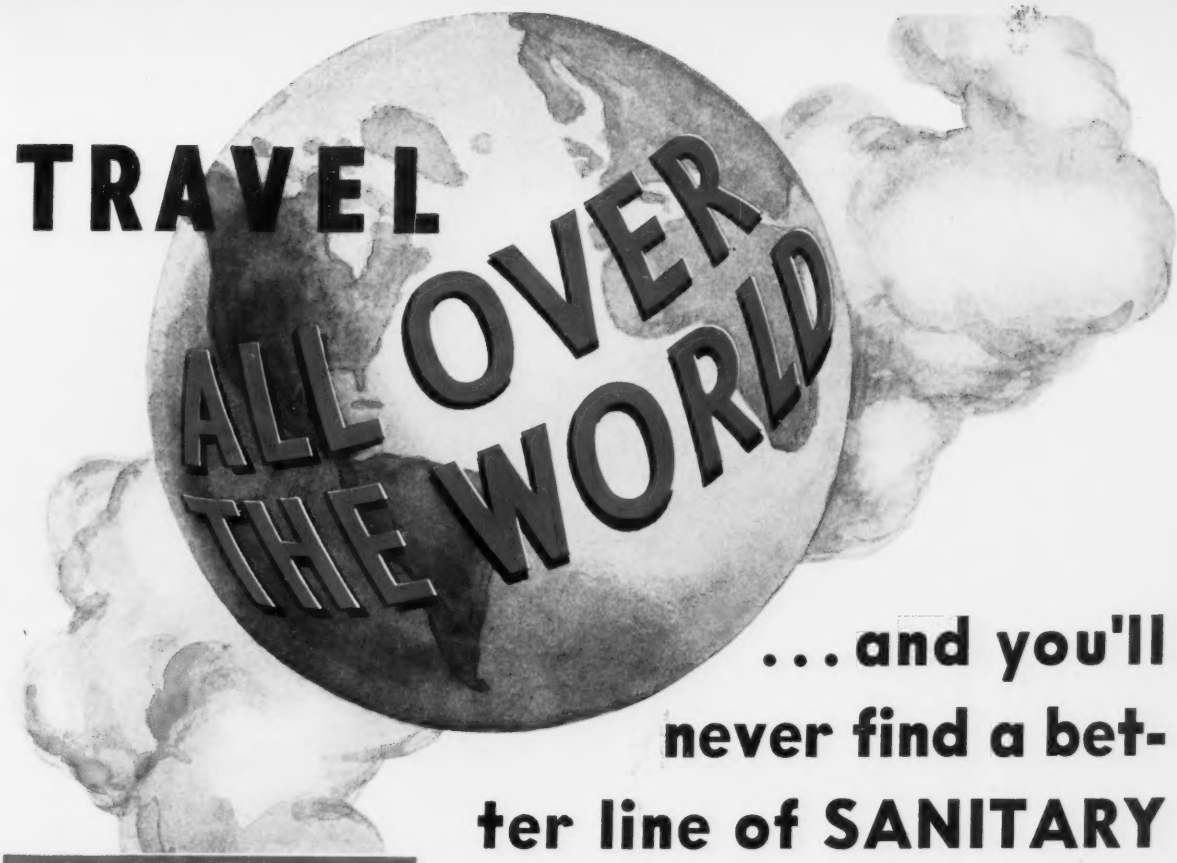
Changing from one type of container to another, even from any paste to free-flowing powder, is only a few minutes work.

May we arrange a demonstration for you?

STOKES & SMITH Co
PACKAGING MACHINERY — PAPER BOX MACHINERY
4715 Summerdale Ave., Philadelphia, U. S. A.
British Office: 23, Goswell Road, London, E. C. 1

S & S G-1 Filler

TRAVEL ALL OVER THE WORLD



. . . and you'll never find a better line of SANITARY SUPPLIES than is made by Davies-Young

OIL SOAPS • COCONUT BASE SOAPS • LIQUID BASE SOAPS • SCRUBBING SOAPS • WAXES • POLISHES • FLOOR FINISHES • DISINFECTANTS • INSECTICIDES • DEODORANT BLOCKS

All produced under Laboratory Control . . . which assures UNIFORMITY

Sold ONLY through Jobbers

THE DAVIES-YOUNG SOAP CO.
Dayton, Ohio

Copyright, 1936, By The Davies-Young Soap Co.

On the skilful checking of the minutest details hangs life and death . . . **Protect against Tuberculosis by CHECKING YOUR HEALTH**

BUY

CHRISTMAS SEALS

THE NATIONAL, STATE AND LOCAL TUBERCULOSIS ASSOCIATIONS OF THE UNITED STATES

HEAVY CHEMICALS

TRISODIUM PHOSPHATE

SODIUM SILICATE **SODIUM FLUORIDE**
SALT CAKE **NITRE CAKE**
GLAUBER'S SALT **SULPHURIC ACID**

And Other Heavy Chemicals of Standard Purity

PRODUCTS of standard quality and uniformity packaged for safety in transit, stocked at strategic points and shipped to reach you at the lowest transportation cost —are these not reasons for decided preference? Your inquiry, by 'phone, wire or mail, will receive prompt and intelligent attention at the Company office nearest you.

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Home Office: **40 Rector Street, New York, N. Y.**

Cable Address: **LYCURGUS, N. Y.**

Sales Offices: Atlanta, Baltimore, Boston, Buffalo, Charlotte, Chicago, Cleveland, Denver, Kansas City, Los Angeles, Minneapolis, Philadelphia, Pittsburgh, Providence, San Francisco, St. Louis, Seattle

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Also **BAKER & ADAMSON C. P. Acids, Laboratory Reagents and Fine Chemicals**

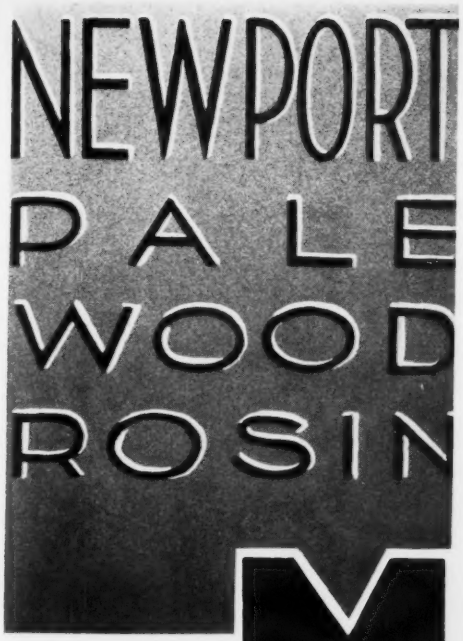
Roney Plaza

MIAMI BEACH, FLORIDA

. . . still the RONEY

● Miami Beach boasts this year many new hotels, new play haunts, new diversions . . . but the Roney Plaza is still the Roney, queen of the winter play world! Its facilities for vacation fun are still unmatched: its long private beach and wide acres of beauty beside the sea, containing the famous Roney cabaña colony, tropic gardens, outdoor pool, dance floor, tennis courts, oceanfront cafe and fashionable shops. Yet with all its contemporary glamour, the Roney still holds true to its high tradition of courtesies, luxuries and social comfort worthy of its distinguished guests.

More than a hotel, the Roney is a resort playground in itself. And its extraordinary guest privileges extend even beyond the estate! Roney Plaza guests, approved by the membership committee, enjoy all play privileges in the exclusive Florida Year-Round Clubs (Miami Biltmore Country Club in Coral Gables, Roney Plaza Cabaña Sun Club on the hotel beach and Key Largo Anglers Club on the Florida Keys) . . . together with transportation without charge in the club aerocars—sumptuous motor "Pullmans"—that carry guests to every vacation pleasure, be it horse racing, golf, night life or fishing. Address reservations and inquiries to the hotel direct or the New York office: 521 Fifth Avenue, Suite 1238-41.



MUNN

MUNN is absolutely clean. Absolutely free from all foreign matter. There isn't an ounce of dirt in a ton of **MUNN**. There couldn't be because of the way it's made. There never has been as long as it's been made.

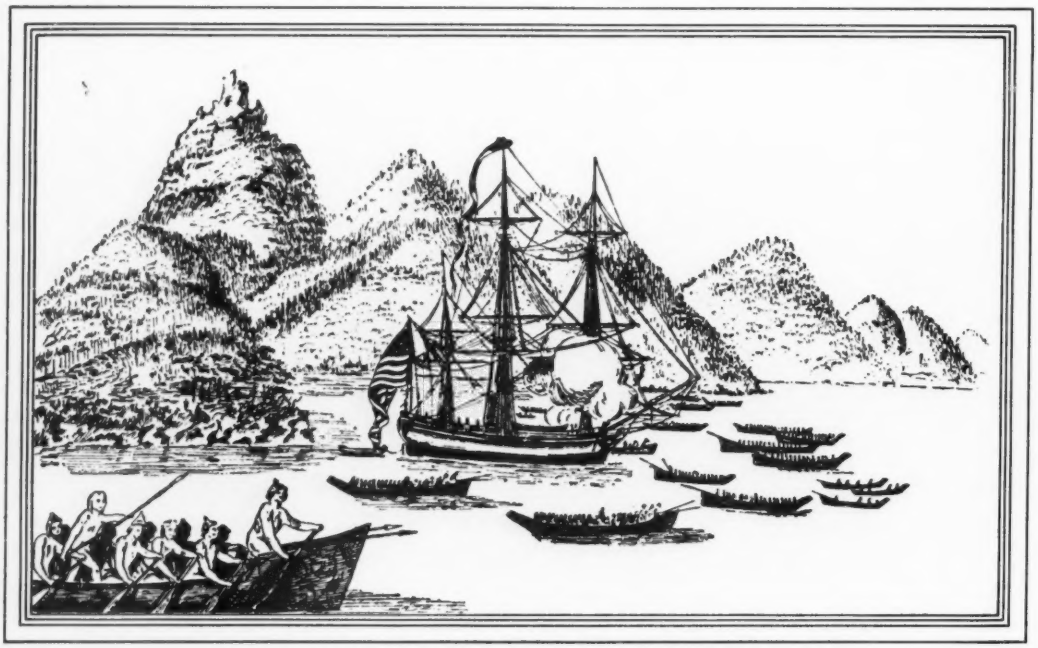
Another advantage you can't get away from is the absolute Uniformity of **MUNN** throughout the years. Each shipment is an exact duplicate of every other . . . identical twins even when produced 5 years . . . or 10 years . . . apart.

MUNN'S THE WORD –
for Uniformity in Pale Wood Rosin.

GENERAL NAVAL STORES COMPANY, INC.

Address Main Office: 230 Park Avenue, New York City — NEWPORT — Plants: De Quincy, La., Pensacola, Fla., Bay Minette, Ala.

DISCOVERY



THE DISCOVERY OF THE COLUMBIA RIVER
AFTER AN OLD PRINT BY DAVIDSON

ON May 11, 1792, Captain Robert Gray of Boston, while on a voyage to open trade with the northwest coast of America, entered a great river which he named COLUMBIA, after his own vessel. Previously, the *Columbia* had been the first American ship to circumnavigate the globe.

Why don't you, too, discover COLUMBIA—the COLUMBIA ALKALIS which never vary, which set new standards of purity, which are backed with worry-free service? If you are not already specifying COLUMBIA for all soda products, may we suggest that the present, with its promise of prosperity for 1937, is a most opportune time to sign on.

SODA ASH · CAUSTIC SODA
SODIUM BICARBONATE
MODIFIED SODAS · CALCIUM CHLORIDE
LIQUID CHLORINE

Our technical staff will gladly cooperate on any unusual applications you may encounter.

THE COLUMBIA ALKALI CORPORATION

EXECUTIVE SALES OFFICES 30 ROCKEFELLER PLAZA · NEW YORK, N. Y.
Branch Sales Offices · BARBERTON, OHIO · 431-451 ST. CLAIR STREET, CHICAGO
CAREW TOWER, CINCINNATI · GRANT BLDG., PITTSBURGH · Plant at Barberton, Ohio

FOR YEARS our Rhodinol Coeur, Geraniol Coeur, Linalool Coeur have been the standard by which discriminating buyers judge quality.

Now PHENYL ETHYL ALCOHOL COEUR joins this merit class.

Don't take our word for its superiority but test it yourself. *First for odor.* You will find it totally free from any unpleasant impurities.

Then the chemical analysis. This shows no trace of esters, no chlorine, a specific gravity of 1.0230, a refractive index of 1.5327 and a solubility of 1 in 50 parts of water. This extremely high solubility is the concluding proof of its extreme purity.

No other commercial product equals those tests; we know of only one imported product that equals them but its price is far higher.

PHENYL ETHYL ALCOHOL COEUR *stands supreme and is offered at the price of the ordinary quality.*

van Ameringen-Haebler, Inc.

315 FOURTH AVENUE, NEW YORK

Chicago *Toronto* *Los Angeles* FACTORY, ELIZABETH, N. J.

Manufacturers and Importers of Aromatic Essentials

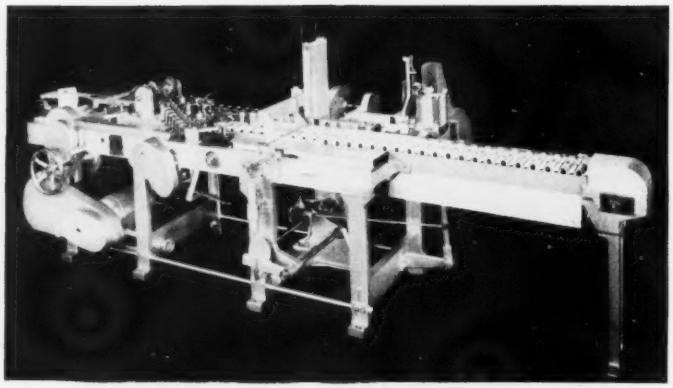
AROMATIC CHEMICALS—ESSENTIAL OILS—FLAVORS—PERFUME SPECIALTIES—

SEE THE

Constant Motion Cartoner

WORKING!

It is easier to use superlatives in advertising than it is to build machinery that justifies them.



To prospective users we constantly point out the advisability of seeing cartoners in actual operation . . . seeing them do your identical job. There may be many ways to accomplish a given task but there can be only one best way. If this way has been perfected, how much better to employ it than to depend upon unseasoned mechanism that may require making over in your production room.

We can show you a tried and proven CONSTANT MOTION CARTONER in production doing a job like your own. Give us the opportunity.

R. A. JONES & COMPANY, Inc.

P. O. BOX 485 **CINCINNATI, OHIO**

We make presses for all shapes, sizes and varieties of toilet and laundry soap.

As the editor sees it....

POSSIBLY some of the more flagrant "nuisance" taxes, including the five per cent tax on toilet soaps, shampoos, and like products, will be removed by the next Congress. With revenues of the Federal Government distinctly on the rise as a result of generally improved business conditions, the need of the Government for the income from the general "nuisance" tax is not as pressing as when these taxes were passed. If Congress acts in accordance with the tax policy of the Administration as expressed several months prior to election, there is a probability that the tax on soap sales will be removed. It is suggested, however, by the Association of American Soap & Glycerine Producers, that soap manufacturers and others concerned remind their Congressmen within the next few weeks that they would like to see these "nuisance" taxes killed. Do your part by writing a letter to your representative in Congress.

COINCIDENT with advances in soap prices by manufacturers, comes an announcement from a leading soap producer that wages are being increased and a bonus paid to all clerical help and general labor. At the same time, the prediction of further advances in soap prices generally is made owing to a "continuing strength of raw materials." In all quarters, we hear much of high costs in soap manufacture, and complaints that soap prices have not kept pace with the advance in costs. Of course, most of the cost increase is laid at the door of high raw material taxes, but, irrespective of the cause, the fact remains that costs are sharply higher. We have heard that all in all, the monetary yield from soap manufacture this year has not been satisfactory. And then comes a fiscal report from a large soaper showing remarkably fine earnings for the third quarter. And on top of a four per cent increase in prices, comes a seven-and-a-half per cent increase in wages.

All these doings and reports in the soap industry are difficult to reconcile. It is all very confusing. We will grant that per ton of soap, labor costs are extremely small compared with most industries. In fact, they are as nothing when compared with raw material cost increases of the past year or so. Nevertheless, they are a definite factor in soap production. Therefore, with the soap industry pictured struggling beneath the weight of heavy excise taxes, it seems strange that labor costs should be deliberately increased at this time.

Let us not be misunderstood in regard to better wages if the industry can pay them. Nothing would please us better than to see both soap prices and industry wages ten or twenty per cent above present levels. But this is merely a wish. The industry is faced with facts,—and if these facts are as represented, anything which tends to narrow down further the margin between cost and selling price, is not in keeping with the facts. On the other hand, if earnings of the soap industry as a whole are ample to pay higher wages, and it follows the lead of the larger company,—isn't it about time to quit protesting in the matter of high costs, excise taxes, *et al?*

A PROMINENT soaper sees a marked drop in the general level of soap quality on the American market. He sees it due almost wholly to the high cost of fatty raw materials,—the result of high taxes,—and the refusal of soap consumers to pay higher prices in keeping with higher costs. The American public has been educated to buy a lot of soap for little money. The fact that during recent years it has purchased in addition at the same low prices much

higher quality soaps than heretofore, is merely incidental. The important feature is the low price of soap. The public expects and insists that the regular run of toilet and laundry soaps to be low in price. Thus is the power of habit,—and the soap industry has not been backward in pointing out the value of the products which it has been selling for little money.

In a practical sense, the retail price of soap is quite definitely fixed. It cannot be moved up thirty or forty per cent over a short period. If raw material costs double in six months, soap prices cannot be doubled over the same period. Evidently, there is only one "out" for the soaper where he cannot increase prices,—that is to cut quality. And, in numerous instances, quality has been cut, if we are to believe what we hear and see. This is one of the immediate, direct, and most unfortunate effects of the excise taxes on oils and fats,—and another view of the picture.

THE flood of extra dividends of the past month or two have been heralded by the "ins" as an unmistakable sign of prosperity returned in full bloom. On the other hand, the "outs" see them mostly as a distribution of surpluses to avoid the heavy taxes on undistributed earnings which go into effect the first of the year. Although the "ins" may be right that prosperity is with us again, the contention of the "outs" seems to have with it the weight of logic. Corporations are getting rid of their cash surpluses as the only way to avoid punitive taxes. The time is short wherein surpluses may be cut down, for January first is the dead line. And when our surpluses have been distributed and spent,—what de we do then if we need money?

SPARKLING gems of science occasionally dazzle our eyes in the beauty columns of the daily press and women's magazines. Soap is a frequent topic of discussion in these columns. The most recent "gem" has been called to our attention by a well-known soap manufacturer in the mid-west. He discovered this piece in the beauty column of a leading newspaper,—a piece written by one Gladys Glad,—and sent it along to us with the comment: "At last, I am enlightened. Finally, the truth comes out!"

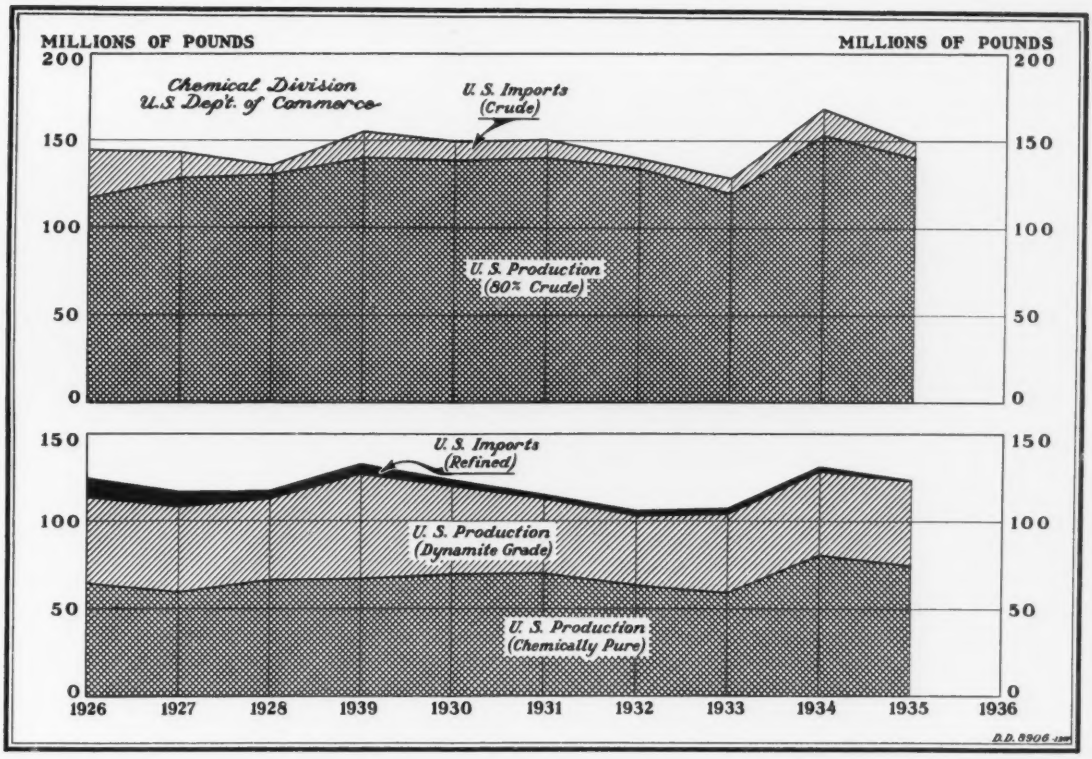
What Miss Glad had to say in her beauty column was as follows: "Soap is a combination of pure oil and pure alkali. The alkali does not assist in cleansing the skin at all. It is merely a preservative used to keep the soap from turning rancid."

The soaper in question passed along the clipping of Miss Glad's comments for the tender mercies of our editorial attention, lamenting all the while on the ignorance of soapers and chemists, and chiding them that they should permit Miss Glad to beat them to the discovery of this paramount function of alkali in soap.

AN officer of the U. S. Army, in charge of the purchase of soaps and other supplies at an important medical depot, recently had the following to say regarding soft soap: ". . . specifications for soft soap have been withdrawn. This office is now formulating a specification for possible use, although in our opinion, soft soap should be relegated to the same scrap heap as has been castile soap, and if higher authority agrees with us, we are contemplating no further purchases of soft soap."

These comments by a representative of the Army speak for themselves. To the manufacturer of potash soaps, this represents another closed market,—another market closed, as far as we can determine, by the actions of those manufacturers who have supplied inferior products. Low quality soft soap, which has not met the requirements of the Medical Section, has been delivered on too many occasions by shortsighted manufacturers. Now, no soft soap will be delivered, because none will be bought. The Army has had enough of chiseling and specification tricks,—and the goose which laid the golden eggs has been killed.

If this would be a lesson to the potash soap industry, it might in the long run be helpful. But will it? We doubt it very seriously. The maker of off-grade soaps will continue to make them and sell them as long as he can make a profit doing so,—and he will continue to do so as long as there are buyers who insist upon being cheated by purchasing on price alone.



Glycerine Shortage

FOR the first time since 1926, there has been an actute shortage of glycerine in the American market. Only with difficulty, may glycerine be bought at any price direct from producers. This firm glycerine market has prevailed since the beginning of the year, but has become particularly acute since May 1st. The price trend at the present time still appears to be upward, although producers are quite evidently holding prices down. The inability of buyers to procure ample supplies in the United States direct from producers has resulted in their purchasing abroad at prices considerably above prevailing prices here. Right now, producers are taking practically no new business.

According to a recent report of the U. S. Department of Commerce, glycerine production in the United States for the first six months of this year amounted to 128,400,000 pounds. During the same period of 1935, 140,000,000 pounds were produced. The decline in production is said to be general with all grades, the output of crude (80 per cent basis), decreasing from 75½ to 70 million pounds, dynamite grade from 25 to 22 million pounds, and chemically pure grade from 40 to 37 million pounds.

The reason for the tight condition of the glycerine market is due of course to the fact that demand has been considerably in excess of supply. The most important cause to which to trace the present situation is the continued good business in almost all industries consuming glycerine, which, naturally, created an unusual drain on stocks that have been none too plentiful. This, coupled with the fact that glycerine production during the first half of this year in the United States was reduced on account of curtailment of soap production, gives a great deal of the story.

Soap production figures for the first six months of 1936 showed a sharp drop. Figures for the third quarter of this year reveal an increase of something like one-third in production over the first half of the year and an increase of 40 per cent over the corresponding period last year.

To the taxes levied on most oils entering into soap manufacture can be relegated a considerable part of the

blame for decreased production during the first six months of this year. The Revenue Act of April, 1934, effective May 10, 1934, provided for the first time for excise taxes on fats and oils. This act had a far-reaching effect on the soap industry insofar as it included a provision for a tax of three cents per pound on the first domestic processing of coconut oil from the Philippines and other United States possessions, palm oil (other than for use in the tin plate industry), palm-kernel, sesame, and sunflower oils, and any combination or mixtures containing a substantial quantity of any one or more of such oils.

In January, 1935, soap costs were reported to be forty per cent higher than in January, 1934. The Revenue Act of 1934, however, did leave several loopholes open. A few sources for cheap fats remained. Imports of tallow became unusually heavy and substantial quantities of fatty acids were brought into the United States. Things slowed down during the early part of 1936 while soap makers awaited a hoped-for respite from the excise taxes. When the Bailey Amendment was adopted, however, the remaining sources of cheap fats for the soap marker were completely cut off. There was not much left for soapers to do but go on with their business, even with odds against them. So glycerine production picked up, and it is believed that present production is keeping abreast of the demand. The rate at which consumption goes on, however, does not permit the building up of reserve stocks.

It is curious to note now, in the face of the present situation, that around the first of this year, an outstanding authority on glycerine expressed serious concern over the possibility that glycerine might not be able to hold its own in the future. Of course, he expressed a long-term view. He stressed the necessity of carrying on research to maintain the present demand for glycerine and to find new uses for it, fearing strong competition from synthetic products which have been replacing, and most probably will continue to replace, substantial amounts of glycerine. During the past fifteen years, ethylene glycol has been slowly replacing twenty to thirty million pounds of glycerine annually.

The development of new and important uses for glycerine during the period when ethylene glycol started to replace it in considerable quantities tided it over what otherwise might have been a critical and possibly disastrous period. These new uses were mainly in transparent cellulose wrapping sheets and synthetic resins for protective coatings.

Another point to be reckoned with in analyzing the present state of affairs is that during 1932 and 1933, prices reached very low levels. It seems that many European producers did not recover normal quantities of glycerine on account of the price shift, with the consequence that production throughout Europe during these years was at least 15,000 tons below the normal yearly production of about 50,000 tons. Starting with the increased demand for glycerine for use in explosives for working the gold mines in Africa to capacity when the price of gold metal went up, and the curtailment in production about the same time, prices advanced. Since November, 1934, glycerine prices throughout the rest of the world have been higher than prices in the United States.

THE glycerine industry, as such, has been generally committed for its own good to a policy of not raising prices, but in times of urgent demand and shortage, it has been found necessary to act otherwise. Since the War, situations analagous to the present one, have occurred twice, in 1920 and again in 1926. The total domestic production in 1920 was 54,685,295 pounds, with imports amounting to 22,411,025 pounds. Abnormal conditions prevailed for about four months, with prices reaching a high of about 28 cents. In 1926 prices reached 30 cents a pound for refined glycerine. Then the abnormal market lasted from April to October. In 1925 as a result of the first serious attempt to sell glycerine as an anti-freeze, sales increased and prices rose rapidly. A shortage subsequently developed which has been regarded as artificial, inasmuch as much energy was devoted to maintaining and increasing the high price.

What followed was the importation of huge quantities of glycerine from abroad, imports amounting to about 38,444,000 for the year, despite tariff barriers. To this gigantic importation, most of which was not consumed at the time, has been assigned much of the responsibility for the low prices of 1933. Tremendous stocks were built up within a few years. At the end of 1931, 15,368,286 pounds of crude were in the United States, and many soapers were running their lyes into the sewer.

Glycerine, over the years, has generally been in a bad way, economically speaking. The price of glycerine has always been affected by the fact that glycerine is a by-product and its production is not controlled. Furthermore, the price of glycerine has never actually borne any elation to the price of soap-making raw materials. The law of supply and demand alone has dictated prices. Now, with synthetic chemistry advancing steadily, there is no telling what new product may step into the picture tomorrow, not only to take the place of a time-honored one that was considered indispensable before, but to present new advantages over the original.

The United States is normally a glycerine importer and in all probability will continue to be. During the first three-quarters of this year, 6,784,032 pounds of crude glycerine and 1,584,234 pounds of refined were imported into the United States. It is expected that a total of 11,000,000 to 13,000,000 pounds will have been imported by the end of the year. In 1933, less than 9,000,000 pounds were imported in all, and in 1932, less than 7,500,000 pounds of both crude and refined. Imports for 1935, though, totaling 8,289,500 pounds were only about fifty per cent those of 1934.

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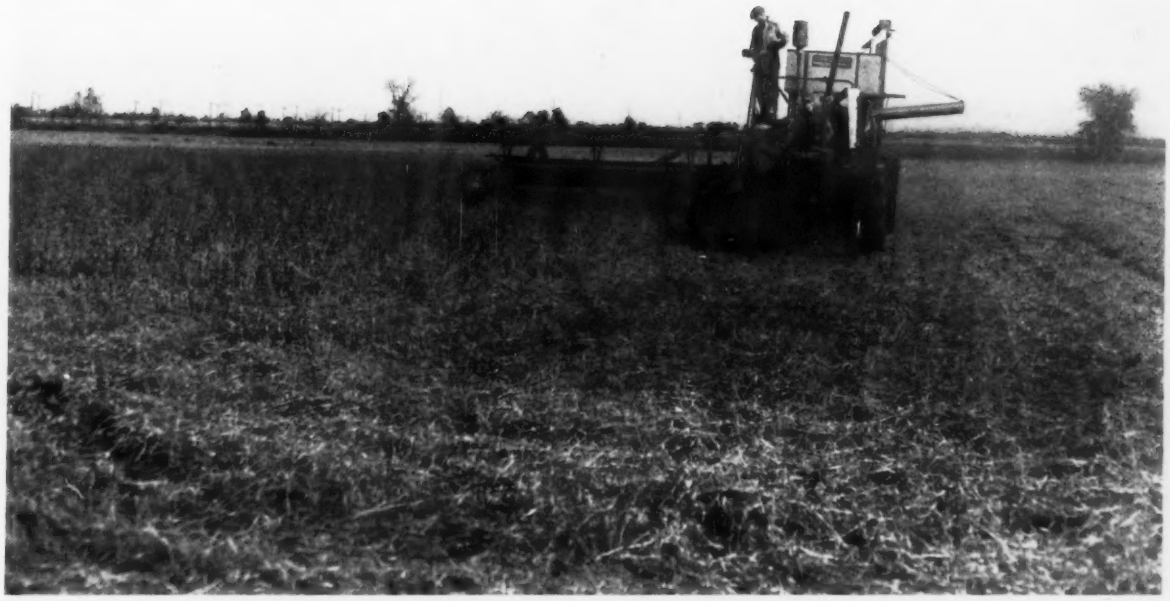


Harvesting soybeans in the middlewest.

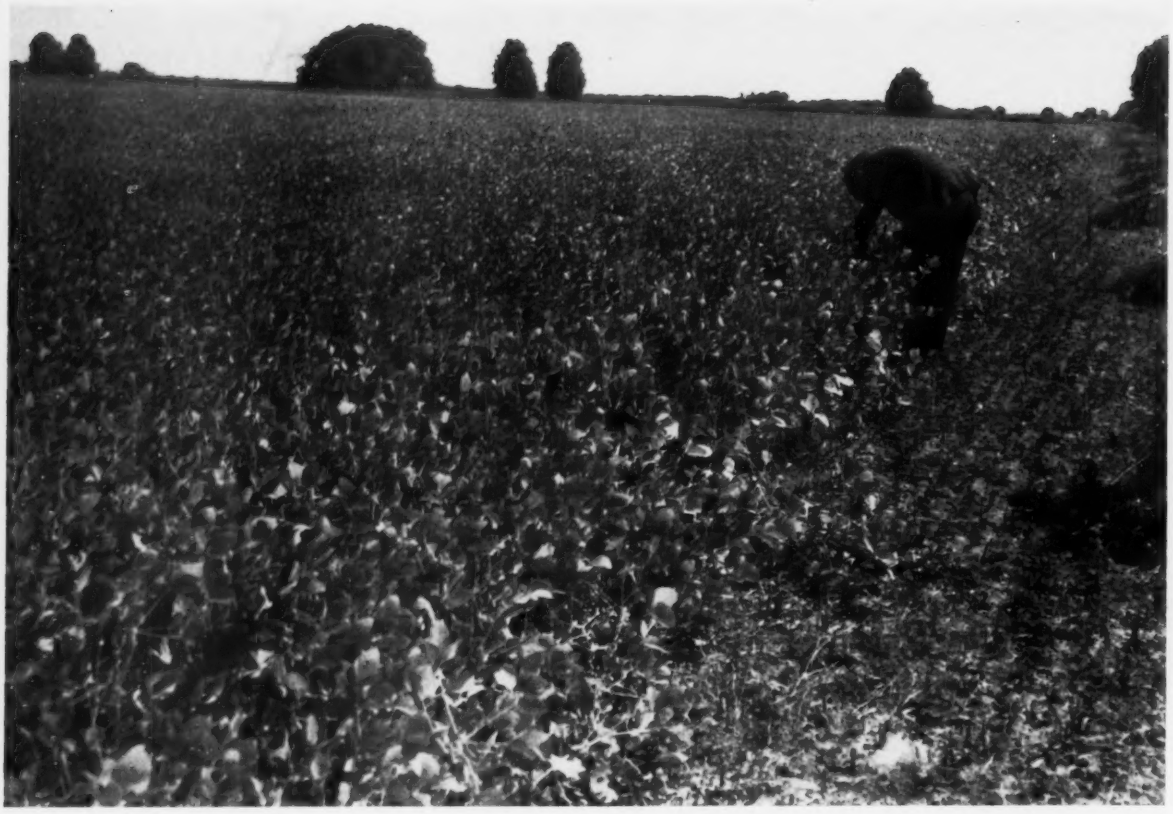
SOYBEAN OIL

By Margaret J. Hausman

WITH the acreage devoted to the soybean expanded tremendously and the number of processing plants doubled in the past few years, American soybean oil production has risen to the point where it is becoming one of the most important domestic sources of vegetable oil. To the soap maker, particularly the manufacturer of potash soaps, this larger soybean oil production holds several possibilities for the future, even though the price of the oil at most times tends to divert oil supplies away from the soap kettle into foodstuffs and other channels. Today, there are something like twenty mills crushing soybeans in twelve different states, and nearly five and a half million acres planted to the soybean crop in this country. The recent success which has accompanied the development of the uses for soybean products in a wide variety of fields has been little short of remarkable.

For centuries, the soybean has been utilized in numerous ways for food. It is native to China, Chosen and Manchuria and is the most important legume grown in the Orient. In 1804, a New England clipper ship, on its return from trading on the China coast, first brought the soybean plant to the United States. Only since about 1880, however, has it been a farm crop here, and only in recent years has it been an important crop. It can be grown in almost any part of the United States, in a climate suitable for corn and cotton, and in a soil which is too acid for other legumes. The soybean used to be grown chiefly as a legume crop,—to replace nitrogen in the soil,—or to take the place of other crops which had been destroyed by rain or drought. Only recently,—in the past fifteen years or so,—has intense interest been developed in the soybean plant, and only in the last few years has real progress in production been made in this country. Until recent years, soybean oil was imported almost wholly from China and Manchuria. Today with a protective duty of 3½ cents per pound,—or 45 per cent ad valorem if it be greater,—American supplies of the oil are all of domestic origin.

The number of uses, some unique, to which the soybean can be put is large. First, the plants themselves are useful as forage and pasture. The nutritive value of soybeans is very high. In addition to being an economical source of protein,—for which the legumes



A field of soybean plants on a mid-western farm.

as a class are being recognized,—the soybean contains both water-soluble and fat-soluble vitamins and an extremely small quantity of starch. Green beans can be used as such as a fresh vegetable or they can be canned. Dried soybeans,—of the yellow-seeded varieties,—have a high fat content, but may be used in a manner similar to that in which navy beans and others are employed. In the Orient, dried beans are used mainly as the basis of many fermented products, such as miso and natto. Soybeans can be roasted and treated in a special manner to make them suitable as a substitute for coffee. This soybean coffee substitute is a commercial product in Oriental countries. In China a product eaten like salted peanuts is made by soaking soybeans in salt water and then roasting them. Popular soy sauce, which is about the only one of the products prepared from soybeans by Oriental people which has been adopted by other countries, is made from dried soybeans.

Soybean milk is prepared by crushing dried beans after they have been soaked for several hours and boiling them for half an hour with three parts of water to one part of mash. The emulsion which is obtained is put through a very fine sieve or strainer. The product resembles animal milk in appearance and properties and can be widely used as a substitute for it. It is reported that children are frequently brought up on this milk in China. There are five companies in the United States which produce soybean milk at the present time, three of these offering it in powdered form. It can be used successfully in breads, cakes, chocolate, custards, and the like. The residue which remains after the liquid has been strained off is still rich in nutritive value and can be used for cattle feed or in the preparation of flour for human consumption, after it is properly treated. In Oriental countries soybean milk is used to a large extent also as the basis of vegetable cheeses.

Unlike the seed of most other legumes, that of the soybean plant is rich in oil. Soybean oil can be prepared in a number of different ways. Expression by hydraulic presses is the oldest method. In Europe solvent extraction is mostly employed, whereas today in the United States, Anderson expellers are most commonly used. There are, however, a few hydraulic press mills and solvent extraction plants in the United States.

When hydraulic presses are used, the beans are cleaned and then crushed by slightly fluted rolls. The crushed meal is dried to reduce the moisture content to 2 or 3 per cent.—which is necessary for efficient extraction. Then it is transferred to a steam-heated temperer and mixed with enough water to yield a satisfactory cake when pressed. The oil from the expellers is passed through a reel which catches the coarser portion of the press foots and allows the rest of the oil to drain through a wire screen. The separated foots are then returned to the expellers. The oil is treated with carbon, earths or other filter aid and filtered, after which it is trans-

ferred to storage tanks. American oils nearly always show a break when heated, which is probably due to the high pressures employed in preparing the oil here, as compared with those used for other types of oil. Treatment with caustic soda is most satisfactory for removing the materials which cause the break.

When the oil is to be extracted, the beans are ground and treated with a solvent. The residue is dried and is claimed to contain no detectable trace of the solvent. When the oil is expressed, the press cake contains from five to nine per cent of oil, whereas solvent extraction leaves only about 0.5 to 1.5 per cent of oil in the meal. The average oil content of the soybean is about nineteen per cent. The solvent method extracts lecithin as well as oil from the bean, whereas press methods leave the lecithin in the bean. As a result of the more widespread use of solvent extraction has come the development of a new and possibly important source of vegetable phosphatides. These are valuable in industry for their emulsifying and anti-oxidant properties. The claim has been advanced that many millions of dollars have been lost by not extracting the phosphatides from crushed soybeans.

Soybean oil ranges from yellow to dark amber in color, variations being due to the type and quality of the beans and the method of preparing the oil. It is classed as a drying oil, but its drying properties are variable. The oil is made up chiefly of the glycerides of linoleic and oleic acid. The properties of one of the most important varieties of soybeans, the Mammoth Yellow Variety, are as follows: iodine number (Hanus), 128.0; saponification value, 189.5; specific gravity, 25°/25° C., 0.9203; index of refraction, 20° C., 1.4736; acid value, 0.5; saturated acids, 11.5 per cent; unsaturated acids, 83.5 per cent; unsaponifiable matter, 0.6 per cent.

Experiments have been made to determine the influence of silica gel on the color and nitrogen content of soybean oil. It was found that when the gels are precipitated from commercial water glass with concentrated hydrochloric acid they remove little nitrogen from the oil at 100°, but as the concentration of the acid is diminished, the gels prepared become more active. The greatest effect is obtained when the gels are precipitated from a 0.1 molar solution of hydrochloric acid.

SOYBEAN oil can be used as a substitute for linseed or corn oil in the manufacture of soft potash soaps. The oil is not easily saponified, and cannot be used alone for ordinary commercial soap making. When it is not completely saponified, it yields a soap which deteriorates easily, spots, and has a disagreeable odor. The addition of tallow, coconut oil, palm kernel oil, rosin, and so forth, facilitate saponification and produce a more satisfactory soap. Soybean oil, however, is valuable for soap making in that it gives a soap of

The leaves of the soybean plant stripped from the stalk, showing the way in which the bean pods occur.

good lathering qualities which withstands hard water very well. The oil can be hydrogenated and used to some extent in hard soaps. The lathering power of soap made from hydrogenated soybean oil varies inversely with the degree of hydrogenation. Fatty acids from soybean oil are suitable for soap making, saponification taking place readily. At present price levels,—and this is generally the case,—use of soybean oil as an ordinary soap raw material is not feasible.

Soybean oil finds an outlet in the paint industry after it has been "boiled" or "blown" and also in the manufacture of printing inks, baking japans, linoleum, oil cloth, etc. The oil prepared by hydraulic presses contains very small amounts of anti-oxidants and consequently is more satisfactory for paint manufacture than the solvent-extracted oil. It is reported that paints made with soybean oil are less likely to turn yellow with age than others. The lecithin which is present in soybean oil increases the value of the oil as a binder and brushing medium in paint since it disperses the particles of color better and causes it to spread more evenly over a surface.

Refined and hydrogenated soybean oil is used in the manufacture of margarin, shortening, salad oils, and other food products. It is important for the refined oil to be carefully deodorized, or else a fishy taste develops in it. In 1935, a total of 45,583 tons of soybean oil was used in the United States. Of this about 59.5 per cent went into oleomargarin, compounds, and vegetable shortenings, 10 per cent into other edible products, 14 per cent into paint and varnish, and about 9 per cent into soap.

The consumption of soybean oil in the United States in various industries is given in the following table. Oil subjected to the process of hydrogenation or other treatment is reported as consumed in the products for which intended. Quantities are given in thousands of pounds.

	1931	1932	1933	1934	1935
Soap	5,441	6,729	5,102	2,177	8,017
Oleomargarine, compounds, and vegetable shortenings	11,492	4,892	496	2,759	54,192
Other edible products		180	460	509	9,421
Paint and varnish	6,256	7,485	8,568	10,451	13,003
Linoleum and oilcloth	2,612	4,061	5,641	2,843	4,816
Printing inks	33	47	65	59	52
Miscellaneous	2,051	1,875	2,626	2,109	1,665
Total	**27,885**	**25,269**	**22,958**	**20,907**	**91,166**

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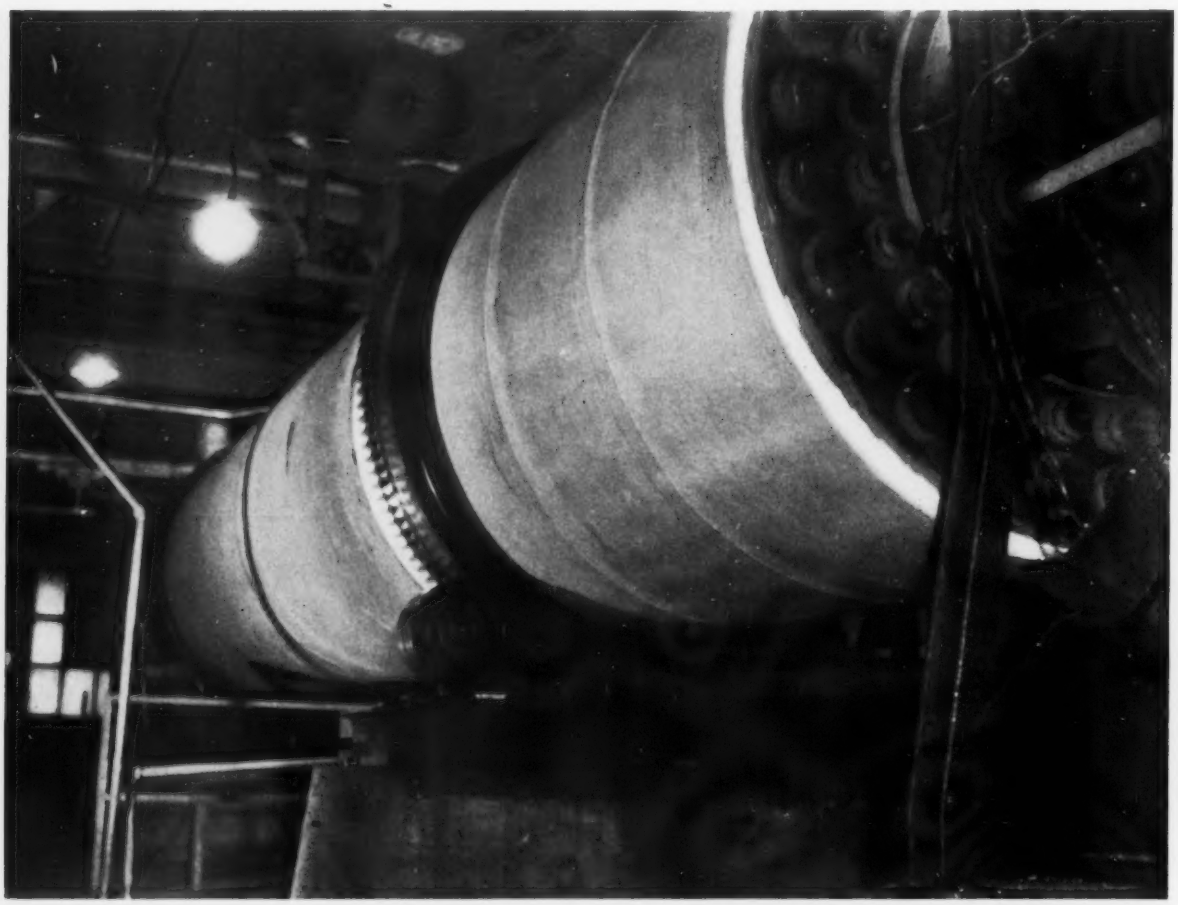


Large rotary dryer in which the moisture is removed from the soybeans prior to expelling the oil.

METALLIC SOAPS

By Harold Silman

London, England

(Part II)

ONE of the most important applications of metallic soaps is in their action as paint and printing ink driers. The drying of paint is dependent on the hardening of the oil base of the paint by the absorption of oxygen from the air. The drying action is a complex one, and proceeds probably by means of three reactions taking place simultaneously: (1) addition of oxygen at the unsaturated double linkages of the oil, (2) polymerization of the oxidized oil, (3) coagulation of the colloids produced by polymerization. These effects take place comparatively slowly and do not proceed to completion for a prolonged period. The addition of a small amount of a drier in the form of soaps of certain metals, especially those of lead, cobalt, manganese, and iron, catalyzes these reactions and causes them to proceed more rapidly. The chief effects of the drier are that it results in (1) more rapid oxidation of the oil, (2) earlier hardening of the film at a lower oxygen content, (3) decreased total oxygen absorption, (4) shortening of the period of induction prior to the commencement of the hardening process.

It is possible that the driers also attack the antioxidants present in the mucilaginous portions of the oil. The state of dispersion of the soap in the oil is of great importance as the finer the state of dispersion the greater is the drying effect. Originally oxides or borates were employed in paints as driers, but the soaps of the metals are superior in their action. It is probable that the oxides are converted to some extent to soaps when incorporated in the paint.

Lead and manganese oleates are among the most commonly used driers, and are highly effective. The former is generally prepared by saponifying litharge with olive oil or cottonseed oil. Manganese oleate may be produced by the action of manganese carbonate on oleic acid. Quite a small amount of drier, of the order of 0.1 per cent is needed in a paint, ink, or varnish. Excessive amounts cause brittleness and cracking.

Another drier used in the production of light varnishes, leather cloth, etc. is manganese linoleate. This may be prepared as follows: 100 parts of linseed oil are saponified with 15 parts of caustic soda dissolved in 10 to 15 times its weight of water. To the solution thus obtained is added a solution of 60 parts of manganous chloride dissolved in 3 times its weight of water. After washing and drying a yellow mass is obtained which browns slightly in the air. The mass cannot be ground, but dissolves in hot linseed oil. The fused product may be obtained by heating linseed oil with pyrolusite, or with manganese dioxide or borate to a temperature of 280° to 300° C.

Resinates of manganese are made, either precipitated or fused, from rosin. A typical method is as follows: 100 parts of rosin are saponified with 35 parts of caustic soda dissolved in water to form a solution of 25° Be. The hot solution is precipitated with a hot solution of 55 parts of crystallized, iron-free manganese chloride dissolved in 350 parts of water. A thick, viscous mass is produced which, on boiling becomes fluid, and the precipitated resinate settles to the bottom of the vessel. The upper layer of liquid is decanted off. The light powder left is soluble in warm linseed oil.

The fused resinate is of great value as a drying agent in lead-free paints and varnishes. It is also used in high-gloss lacquers and as a color in porcelain glazing. It may be prepared by fusing 100 parts of rosin at 150° C. to remove any water and slowly raising the temperature to 200° to 220° C. At this stage 15 parts of hydrated manganese dioxide are added with constant stirring a little at a time so that the foam which is produced may settle. On cooling a dark brown, resin-like mass is obtained which is soluble in benzene or hot linseed oil.

ALL the metals which are active catalyzers in the drying process in paints and inks have a dual valency. It is therefore believed that their action consists in the formation of a compound at a higher state of oxidation by the soap. From this compound the drying oil receives its oxygen, while the metal reverts to the lower stage of oxidation. This "passing on" process continues indefinitely. Thus it would be expected that the salts of metals of high valency would be better drying agents than those of lower valency. This is found actually to be the case, as aluminium stearate, in which the aluminium is trivalent is a more active drier than the divalent zinc stearate.

In recent years, the soaps of titanium have been developed as paint driers, as it would be expected that titanium, being a tetravalent metal would exhibit power-

CHARACTERISTICS OF SOME METALLIC SOAPS

	Oleate	*Stearate*	*Palmitate*
Lead	Viscous, gummy mass. m.p. 50° C.	Voluminous powder, greasy to the touch. m.p. 115° C.	White, granular powder. m.p. 106° C.
Zinc	Amorphous mass, cream color. Cannot be ground. m.p. 65° C.	Fluffy, white powder. m.p. 125° C.	Voluminous white powder. m.p. 130° C.
Copper	Hard, waxy, blue mass. No definite melting point. Decomposes on warming.	Pale blue, light powder. m.p. 125° C.	Voluminous, crumbly mass. Slightly soluble in water. m.p. 110° C.
Silver	Greyish or yellowy powder. Oily to the touch. Odor of oleic acid.	Fine, odorless powder. Readily ground.	White, talc-like powder.
Mercury	Viscous semi-solid mass. Gradually hydrolyses in air. No m.p.	Fine, white powder, melting to a white, opaque solid. m.p. 112° C.	Fine, white powder. m.p. 105° C.
Nickel	Greenish-blue oil. Readily oxidized in the air. Somewhat soluble in water. m.p. 20° C.	Light green, voluminous powder. Decomposes partly on melting. m.p. 100° C.	White, crystalline opaque mass. m.p. 45° C.

ful effects as a drier. Titanium oxide, is however a very inert substance, and no compound can be produced by fusion of the oxide with fatty acids. Titanium tetrachloride, however, reacts very readily with fatty acids at moderate temperatures with liberation of hydrochloric acid gas. Much heat is produced, and unless the reaction is carried out cautiously, charring is liable to occur.

In practice, the titanium tetrachloride is introduced into the liquefied fatty acid together with an equal amount of calcium carbonate to reduce the violence of the reaction. A slight excess of the titanium salt is added in small portions at a time, stirring vigorously. Most of the hydrogen chloride is liberated in the gaseous form. On cooling the mass is filtered while in the molten state to remove calcium carbonate, etc. Alternatively, the soap may be dissolved out by means of benzene and then centrifuged, the benzene being recovered by distillation. Otherwise it may be precipitated from the benzene solution by the addition of alcohol. Different types of material are produced by these variations. Thus the alcohol precipitated titanium soap is insoluble in most organic solvents, unlike the others. The linoleate and resinate may be prepared similarly. It is of interest to note that the stearate is a better suspension agent in paint than aluminium stearate.

As has already been mentioned, unless the dispersions of these soaps are properly and carefully made they are liable to precipitate out. When this occurs in paint or ink the results are very troublesome. Heating will in most cases cause the white precipitate to redissolve, but reprecipitation will occur again in a short time. Lead linoleate is particularly liable to this tendency, and for this reason it is often preferable to use the naphthenate, also on account of the higher solubility of the latter. The naphthenates can, furthermore, be prepared of a lighter color than the linoleates, especially by fractionation of the naphthenic acid.

Metallic soap dispersions often become viscous and gel on keeping, which is a serious disadvantage in a paint or ink. Cobalt naphthenate and linoleate, although very effective driers show a special tendency to gelling. The addition of 5 per cent of linseed oil fatty acids or ½ per cent of benzoic acid promotes dispersion and reduces viscosity. Other acids have also been recommended for this purpose in various patents. The presence of a high degree of acidity has been generally recommended for maintaining the dispersibility of metallic soaps, but the removal of excessive moisture is also sometimes helpful.

BESIDES their use as driers, the metallic soaps find application as suspension media and also as flatting agents, to remove the gloss from certain paints and inks. Where transparency is not of importance calcium, zinc and titanium soaps are useful. Aluminium stearate is desirable when a transparent film is wanted.

As a suspension medium aluminium palmitate is one of the most effective, the zinc palmitate being least effective. Aluminium stearate with a high ash content dissolved readily even in the weaker solvents to form a strong gel which is very useful for increasing the viscosity of paints. The same materials are also useful in oil enamels and nitrocellulose lacquers which are to be applied in thick films. Oil enamels with considerable body require an aluminium stearate with a high free acid content in order to prevent excessive gelling.

There has recently arisen a demand for metallic soaps as flatting agents for cellulose lacquers, since aluminium stearate is too soluble, and not suitable for these products, which contain powerful solvents. The more insoluble metallic soaps have been found to be particularly suitable for this purpose, among the best, in decreasing

order of importance being zinc stearate, zinc palmitate, calcium stearate and aluminium stearate.

All the metallic soaps, however, possess the disadvantage of rendering the lacquer opaque to some extent, with the exception of aluminium stearate. For a transparent lacquer, therefore when a high degree of clarity is desired aluminium stearate with a high free stearic content is most suitable. It is added in the proportion of ½ lb. to the gallon of lacquer.

ALUMINIUM stearate is one of the most important of the metallic soaps technically. Its function as a suspension agent has already been referred to. It also enables transparent greases to be prepared from petroleum oils without the addition of water. It is employed in the sizing of paper, in the manufacture of leather substitutes, and as a filler in celluloid, rubber and synthetic plastics. As an ingredient in lubricants, waxes and polishes, and in the preparation of petroleum emulsions of the water-in-oil type, it also finds considerable application. Emulsions of the latter type are used as insecticides, as lubricating and cutting oils for drilling metals, and as softeners in the dressing of leather goods.

Aluminium stearate is generally made by treating stearic acid with caustic soda to produce the sodium soap, and then precipitating the aluminium stearate by the addition of a solution of aluminium acetate or sulfate at 110° F. The product is pressed, and the cake, which now contains some 60 per cent of moisture, is dried in a current of hot air. The dried material is then ground in a centrifugal disintegrator. Since a white product is desirable, the stearic acid used should be as pure as possible. The presence of any appreciable amount of oleic acid will cause it to be dark in color. Oleates will also lower the melting point and delay the drying of the paint or varnish.

The temperature of precipitation is of importance. If it is carried out at too high a temperature, the product will be gummy and viscous, while if the temperature is too low, the mass will be hard and dense and difficult to wash. When correctly manufactured aluminium stearate is obtained as a voluminous, fluffy white powder, soluble in hot solvents. Free stearic acid is generally present in the finely divided powder, the transparent crystals being easily recognizable under the microscope. The presence of a small quantity of free fatty acid promotes solubility.

Aluminium stearate is used to a considerable extent for the manufacture of waterproof cloth of all descriptions. The stearate is deposited in the pores of the material in a colloidal state, and when wetting occurs, the colloid swells, thus effectively sealing the pores of the cloth. Ultra-violet light destroys the colloidal properties of this soap, as does also heat, so that the waterproofing properties gradually diminish.

The soap may be impregnated into the material by immersing it in a solution of the soap in a volatile solvent. Another method is to dip the fabric into a solution of an alkali soap, and then dip into a solution of the aluminium salt, so that the aluminium soap is formed *in situ*. One of the best methods of impregnation is, however, the electrical method. In this the cloth is first passed through a warm soap solution (preferably a stearate soap), the superfluous moisture squeezed out, and the fabric then passed between aluminium rollers which act as electrodes, being connected to a supply of electricity. The aluminium hydroxide thus produced combines with the soap in the cloth and is precipitated within the fibers.

MAGNESIUM and zinc stearates are of importance in the cosmetic industry, both in the preparation of various creams and, more particularly, in lending adhesiveness to face powders. The zinc salt also finds application in the manufacture of healing ointments. Zinc stearate is prepared by adding a dilute solution of caustic soda to molten stearin, and to the soap thus produced adding a slight excess of a hot, supersaturated solution of zinc sulfate. On adding excess of water, the zinc stearate is precipitated as a fine white powder. The chemically pure soap may be made by treating a hot alcoholic solution of an alkali stearate with zinc chloride, or by the interaction of a solution of stearic acid in alcohol with zinc acetate.

Magnesium stearate is prepared similarly, and yields a fine, white powder soluble in hot alcohol, melting to a bright, mobile liquid which forms a glassy mass on cooling. Further heat causes it to decompose.

THE metallic soaps find a multitude of applications in numerous other fields, and it is only possible to touch briefly on a few of these. Copper and mercury soaps are powerful fungicides and algicides, and are used in agriculture and in anti-fouling paints for ships bottoms, and in preserving fishing nets and equipment. Mercury, lead and zinc compounds are used for the treatment of skin troubles. Copper oleate promotes granulation and healing of wounds, and is the soap used for treating fish nets.

Magnesium oleate has been added to the solvent in dry cleaning plants to promote the detergent action of the solvent, and also to prevent fire due to the accumulation of static electricity when garments are removed from the vat.

The colloidal properties of these substances, notably aluminium stearate, makes them highly absorbent. The extremely powerful surface tension which is developed enables them to absorb dyes, perfumes, pigments and oils. They find application in the manufacture of substances such as lake colors, as mordants, etc.

Greases are essentially oil-in-water emulsions, and the

(*Turn to Page* 39)

LAVANDIN

With the decline in French lavender plantations, and a growing scarcity of wild lavender, lavandin, a hybrid of spike and true lavender, assumes wide interest to soap perfumers the world over.

Part II

By Dr. Ernest Guenther

Fritzsche Brothers, Inc.

THE first lavandin plantations were undertaken some years ago according to the method of planting lavender then widely practiced. Young lavandin plants were collected from the mountains, planted in plowed fields and cultivated like lavender. This procedure to a certain extent is still employed, although nowadays planting is done mostly with slips. Healthy and strong plants are chosen from an already existing lavandin plantation, pulled out and divided. Thus slips of one year old wood are obtained. They are planted into well prepared soil which can be irrigated easily, two to three centimeters apart in rows 30 centimeters apart. This work is done during the winter. In the following spring and summer, the ground is frequently irrigated and hoed. In the fall, the young plants have taken root and can subsequently be transplanted into clean soil well plowed during the previous summer.

The method of planting varies according to growers and regions. The plants can be set out in straight rows or staggered. The distance between the plants may vary from one to two meters. If the rows are 1.5 meters and the plants one meter apart, one hectare will grow 6,666 plants. If the rows are two meters apart and the plants one meter, a hectare will grow 5,000 plants; 1.25 meters by 1.25 meters 6,000 plants and 1.5 by 1.5 meters 4,444 plants. Thus from about 4,400 to 6,700 stocks can be planted per hectare. 1 acre = 0.404 hectares. Planting in rows offers the advantage of a greater number of plants per hectare whereas staggered planting facilitates cultivating. Once the young plants are set out, the principle care consists in frequent and light hoeings. The first year only 10 to 20 grams of plant material (stalks and flowers) are obtained per stock, the second year about 200 grams, the third year about 600 grams and the following years one kilo per stock. A fully developed plantation yields upon harvesting from four to five thousand kilos of flower material per hectare. In some very exceptional cases up to four kilos of plant material per stock was obtained[2].

Geographically speaking lavandin plantations nowadays are located in the following Departements of Southern France:

(1) Dept. Basses Alpes

The largest lavandin plantations are in the Basses Alpes near the location where the first lavandin plants were harvested because in this region the peasants were already familiar with the cultivating of true lavender. From the mountains, they could collect wild lavandin plants necessary for the starting of plantations and besides the extended high plateaus of the Basses Alpes lend themselves beautifully to these plantations. These plateaus are located between the rivers Asse, Verdon and the left bank of the Durance. The principle centers are:

Ries, Saint-Jurs, Montagnac, Allemagne, Quinson, Valensole and the ancient, picturesque village of Moustiers near the famous canyon of the Verdon River. Other but less important plantations are found on the right bank of the Durance.

(2) Dept. Var

South of the Basses Alpes and connecting with, exists another region of less extensive lavandin plantations. Centers are the following villages:

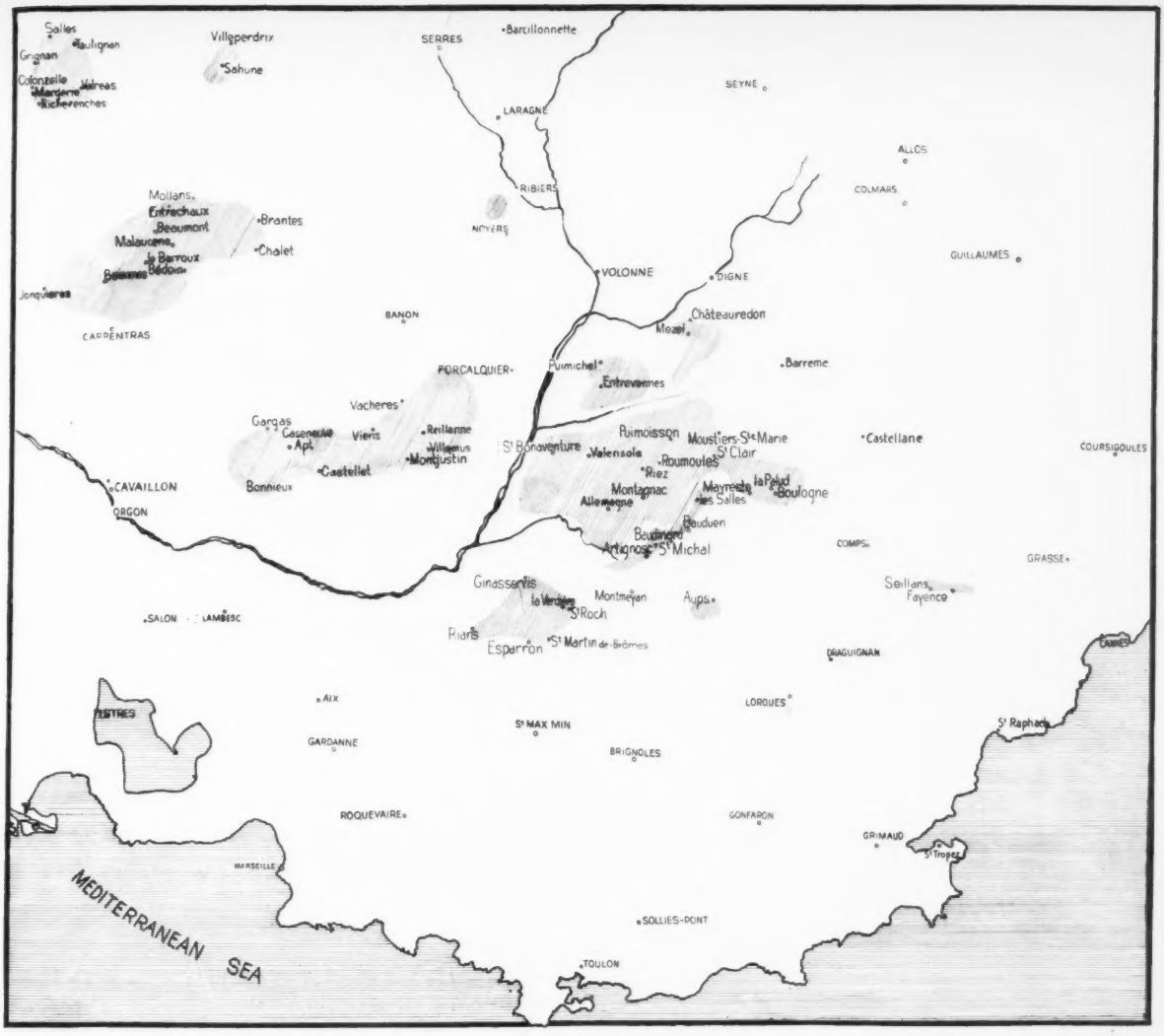
Rians, Ginasservis, Laverdiere and Moissac.

(3) Dept. Vaucluse

Lavandin plantations exist in the Eastern part of this Departement. Centers are:

Malaussene, Entrechaux and Apt.

[2] For comparison we note that lavender plantations are usually laid out 1 x 1 meter i.e. closer together, thus giving 10,000 plants per hectare 250 to 350 grams of lavender flower material are obtained per stock or 2,500 to 3,500 kilos per hectare.



Shaded areas show the chief lavandin producing regions in Southern France, each producing oils of different characteristics.

(4) Dept. Drome

Plantations here are of medium importance. They are located around the following villages:

Buis-les-Baronnies, Valreas, Saillans and Ballons.

(5) Dept. Lozere

A few small plantations exist south of Florac.

(6) Dept. Alpes Maritimes

A small plantation is located near Chateauneuf de Grasse.

THE lavandin plants are harvested about the end of August, in general after the lavender harvest. The lavandin harvest lasts about 15 to 25 days, sometimes even a month. Cutting is usually started 2 to 3 hours after sunrise because at that moment the flowers are richest in essential oil content. Cutting is done by hand with old-fashioned sickles. On account of the dense foliage of the plants, an equal weight of lavandin can be cut much quicker than lavender. A skilled harvester may cut 400 to 700 kilos of plant material in 12 hours of daily work. In the case of planted lavender, only about 200 kilos can be harvested in a day.

The cut lavandin flowers are tied up in bundles like wheat, but to avoid fermentation, the bundles are kept much smaller. From the fields, the plant material is transported by cart or truck to the distillation posts which are the same or similar to those used for lavender distillation. Most of the stills are of the migratory type set up before the harvest in a locality where water and a sufficient flower supply are available.

In general there are three types of stills: First the migratory type of 200 to 600 liters content. They are usually equipped with a false bottom above which the flower charge rests. The water beneath is brought to a boil by a wood fire, and the steam of about one kilo pressure passes from the boiling water through the false bottom and through the plant material into the con-

Cutting lavender in France five years ago. The bulk of lavender gathered today, however, is wild lavender, owing to the decay of the plantations. Lavandin, because of its dense growth, is economical to harvest.

denser. The second type consists of small steam stills of about 500 to 600 liters content. The steam is created in a separate small boiler with which as a rule two stills, working alternatingly, are connected. The oils thus distilled show a slightly higher specific gravity and a somewhat higher ester content. A third type is a small distillation plant under cover of a roof or a shack. It consists of several stills of 500 to 1,500 liter content. As a rule these stills have a capacity of about 1,000 liters and may be charged with 180 to 200 kilos of lavandin flower material. The steam boiler is often equipped for burning the exhausted, sun-dried plant material.

One hundred kilos of lavandin flowers yield from one to two kilos of oil of lavandin, on the average 1.5 kilos. Lavender flowers, on the other hand, yield from 0.5 to 1.0 per cent of essential oil. Distillation is carried out quite rapidly and lasts about 40 minutes per charge. During the first 10 minutes, 65 per cent of the essential oil is distilled over, during the second 10 minutes 20 per cent, during the third 10 minutes 5 per cent of the total oil. If a charge of 200 kilos of plant material is distilled for more than 40 minutes, an additional 50 grams of oil can be obtained, but the quality of this last run is inferior and its value does not compensate for the cost of distillation.

It must not be forgotten that during the harvest, much cut plant material is ready for distillation and will lose essential oil by evaporation if not distilled in time. The fact that a lavender or lavandin distillation post is used for only 25 to 30 days per year explains why large factories are impractical. They require the investment of capital, the writing off of which would make the oils too expensive in competition with the low priced peasant stills. Besides, a regular factory has labor expenses which the peasant distiller never figures. He is used to work without calculation and simply sells his oil at the market price.

WHILE oil of lavender and oil of spike have been investigated quite thoroughly, comparatively little is known about the chemistry of oil of lavandin. It is generally taken for granted that oil of lavandin, because derived from a hybrid, contains most, if not all, of the constituents of the parent plants i.e. lavender and spike. We have taken steps for an investigation of the constituents of genuine lavandin oils which will be published in due time. So far most reports on oil of lavandin content themselves with the determination of the physical constants and the ester and alcohol content.

In regard to odor, oil of lavandin resembles both oil of lavender and oil of spike. From the latter, oil of lavandin has inherited a somewhat harsh camphorous note which, however, is less pronounced in some types of lavandin oil than in others, and certainly much less

noticeable than in compounds made synthetically by mixing genuine oil of lavender and genuine oil of spike. Therefore oil of lavandin offers a considerable advantage as far as odor is concerned.

In physical properties, too, oil of lavandin stands between oil of lavender and oil of spike. Shipments of genuine oils which were received during the last six years showed the following properties:

Specific Gravity at 15° C.....	0.890 to 0.896
Optical Rotation	—3° 12′ to —5°
Refractive Index.....	1.4620 to 1.4640
Ester Content (calculated as Linalyl Acetate).....	18.5% to 24.8%
Solubility	Soluble in 2 to 2½ volumes of 70% alcohol and more; sometimes opalescent with more; sometimes soluble in 4 to 4½ volumes and more of 60% alcohol.

Genuine standard samples which the writer had occasion to take personally during his last survey of the lavandin production regions, August 1936, showed the following properties:

Place of Production	*Specific Gravity 15° C.*	*Optical Rotation*	*Refractive Index*	*Linalyl Acetate Content*	*Free Linalool Content**	*Solubility*
VAUCLUSE	0.892	—4° 22′	1.4621	24.3%	45.6%	Soluble in 2 volumes and more of 70% alcohol.
CARPENTRAS	0.896	—4° 2′	1.4625	26.4%	47.5%	Soluble in 1.5 to 2 volumes of 70% alcohol.
VALREAS	0.893	—4° 44′	1.4631	24.6%	47.2%	Soluble in 2 volumes and more of 70% alcohol.
SAHUNE	0.894	—4° 27′	1.4631	24.7%	48.4%	Soluble in 2 volumes and more of 70% alcohol.
ST. JURS	0.893	—5° 15′	1.4629	24.8%	46.9%	Soluble in 2 volumes and more of 70% alcohol.
ST. JURS	0.893	—4° 11′	1.4622	22.8%	51.0%	Soluble in 2 volumes and more of 70% alcohol.
CHATEAUREDON	0.894	—4° 28′	1.4627	24.6%	45.2%	Soluble in 2 volumes and more of 70% alcohol.
QUINSON	0.893	—4° 40′	1.4617	26%	48.6%	Soluble in 2 volumes and more of 70% alcohol.

(The good weather prevailing this year caused the ester content to be relatively high.)

* Boulez Method, six hours' acetylation, using xylene as a diluent.

STUDYING the types of lavandin oil as produced in the various sections, we arrive at a distinction of four types although a very sharp line cannot be drawn. One is tempted to undertake this classification according to the difference in chemical and physical constants especially specific gravity and ester content. However, it must be remembered that these constants are influenced not only by local weather, soil and altitude, but also by the method of distillation, direct steam distillation giving oils of higher ester content and higher specific gravity. The constants of pure oil of lavandin in general do not vary greatly and the limits are rather close. Thus classification is better undertaken in regard to odor which shows greater variations according to certain districts.

(1) Type of oil distilled in the Departement of Vaucluse, around Apt and Carpentras. The ester content in normal years ranges from 18 to 22 per cent. The odor of this type of oil is somewhat harsh and camphorous. In 1936 about 10,000 kilos of this type of oil were produced.

(2) Type of oil distilled in the Departement of Vaucluse and Drome, especially around Valreas. The ester content in normal years is around 20 per cent. The odor is a little less harsh and less camphorous than the type described under No. 1. About 13,000 kilos were produced in 1936.

(3) A type of oil distilled in the lower altitudes of the Departement of Basses Alpes. The ester content in normal years is around 20 per cent and a little higher. The odor has a sweeter note of less camphorous character. About 33,000 kilos of this type were produced in 1936. Thus the bulk of oil of lavandin originates in this section and approaches this type.

(4) A type of oil of lavandin produced in the high altitudes of the Departement of Basses Alpes. The ester content of this type of lavandin oil varies around 25 per cent. In some exceptional cases it is even higher if the distillation material originates in very high altitudes and if the plantations have been started from very well selected plant material. The perfume of this oil lacks the pronounced camphorous note; it is sweet and approaches true lavender. Five to six thousand kilos of this type of oil were produced in 1936.

Undoubtedly a type of lavandin oil of such high ester content and a perfume resembling lavender is most interesting and promises a good future especially if the price of this oil is not much higher than the price of regular lavandin oil. Such an oil will be attractive to American soap manufacturers. There is also the advantage that the price could be kept more stable over several years which would permit the soap manufacturers to use the oil in their formulas and remain within an allowed calculation range. Within a few years larger quantities of this type of oil will be available because the newly started plantations in the highest altitudes of the plateaus in the Basses Alpes will come into full

production. Whereas the peasant growers of most lavandin regions have done little to improve the quality of lavandin oil and have given prime consideration to a large yield of oil, a number of growers in the high altitudes of the Basses Alpes seem to have succeeded in creating a type of hybrid of lavandin which more closely approaches lavender. We mention in this connection the lavandin plantations started near Chateauredon not far from the famous lavender center in Barreme, also the plantations near Saint-Jurs in the extreme North of the Basses Alpines lavender regions, and finally the very high plantations near Ballons, (Drome).

The growing of this type was not done by scientific botanical methods which so far seem to have failed in developing lavandin plants giving an oil of sweet perfume and high ester content. The selection of the plants used for those plantations was made according to odor value. In other words, plants were selected, the perfume of which most closely resembled lavender. As a second condition, the plantations were laid out at the very upper limit of the altitude in which lavandin still grows (800-900 meters). It is a generally accepted belief that the color of lavandin offers a good indication as to whether the hybrid approaches more the grayish spike or the deeper blue of true lavender. In many cases this might hold true also as far as odor is concerned, but it is not always true. Therefore a new lavandin plantation in which, not the yield of oil, but the quality of the oil is of prime importance, should be started by selecting plant material mostly according to odor value.

AS mentioned already, oil of lavandin, especially the types of higher ester content, promises to be of great value to the American soap manufacturer. In many cases indeed, oil of lavandin can be used as a substitute for the too-expensive oil of lavender. The slightly harsher and more camphorous note of lavandin is not always a detriment, in fact it is sometimes desired in order to impart to the soap odor a little more strength. Additions of synthetic linalyl acetate and small quantities of benzyl acetate help to give a somewhat fresher note. As long as oil of lavender is sold in the French producing regions around 170 to 200 francs per kilo (not considering shipping, distribution, cost and commissions in America) and even under the new monetary standard of the franc, the average American soap manufacturer can hardly afford to employ true oil of lavender. The French lavender producers do not seem to realize that in the United States a cake of soap is still retailed between five and ten cents. As far as the bulk of American soap is concerned, the price of French lavender is prohibitive. On the other hand, as we have tried to explain in this study, the production of true oil of lavender, on account of the changed conditions, is indeed very costly.

The central distilling plant, because of its high cost of operation, is disappearing from the lavender regions, being replaced almost altogether by the migratory still of the peasant.

We sincerely believe that instead of resorting to cheaper and therefore adulterated grades of oil of lavender, or instead of replacing oil of lavender entirely by synthetics and completely changing the soap perfume formulas, it is much more to the interest of both the soap makers and the lavender producing regions of Southern France that the American soap manufacturers employ genuine oil of lavandin. We say *genuine* oil of lavandin and not adulterated oil of lavandin because already, as in the case of every essential oil, adulterants of lavandin have appeared on the market. The writer knows from his own personal experience that several types of lavandin adulterants are being manufactured and offered freely under full guarantee that the oils thus adulterated will pass the tests of the American customs. Although the analytical laboratories of the American customs officials have nowadays very efficient methods enabling them to put heavy penalties on the import of adulterated lavandin oils, yet there always will exist the danger that some lots will slip through the vigilance of the customs authorities.

The American soap manufacturers have had some very discouraging experiences with French lavender oil and if similar methods are repeated with lavandin, the French exporters should not be surprised if the United States and other countries as well make serious efforts to produce their own lavender and lavandin. Southern France holds by no means a monopoly on these oils. May the recently undertaken experiments on Puget Sound in Washington and also near Tihany on the Balaton Lake in Hungary give cause to some reflection. The remarkable success of the American citrus oils and peppermint industry might easily tempt Uncle Sam to become independent also in regard to other oils!

Metallic Soaps

(*From Page* 33)

power of metallic soaps to facilitate the formation of emulsions of this type has already been referred to. Lime soaps are largely used in this connection for the emulsification of fats such as rosin oil. Zinc, magnesium, calcium, aluminium and lead soaps are all utilized in greases. Lead soaps are valuable in high temperature greases, since they are very viscous at ordinary temperatures, becoming fluid when heated. The hydrogenated oil soaps of lead are used as dry-cleaning soaps.

Cobalt linoleate is a very active paint and ink drier, promoting rapid surface drying. When used in excessive amounts, drying proceeds with such rapidity that a wrinkled effect is produced. This is often purposely induced for decorative effects. Cobalt linoleate also increases the degree of dispersion of materials to which it is added. Thus it will aid in maintaining a low viscosity in rubber solutions, and when added to oils during the blowing process, will materially reduce the rate of polymerization.

Glycerine Shortage

(*From Page* 26)

One reason for the reduction in imports is the foreign price level. Another reason lies in the tax situation. From September 20, 1935, when the law which threatened the addition of a three-cent per pound duty on imported glycerine, became effective, until June 21, 1936, importers were extremely cautious. Imports for the latter part of last year and the first part of this year were, consequently, decidedly limited. The situation, however, was brought to a head on June 21st when the new tax bill was passed, to become effective August 21st, which eliminated all reference to any compensatory tax. There are some interests which consider that war scares in Europe can be made accountable for the rising prices, but we doublt seriously that they can have very much to do with conditions.

Soybean Oil

(*From Page* 30)

The most profitable product of the soybean is the press cake or meal, which is left after the oil has been obtained. The most common use for the meal in Europe and North America is stock food, but in the Orient, it is used extensively as a fertilizer as well. Of increasing importance is the newer use of the meal as a flour for human food. When it is derived from yellow-seeded varieties of beans it is bright yellow when fresh and has a sweet, nutty flavor. Soybean flour is prepared by grinding either the whole bean or the press cake. Inactivating the enzymes which are present in the bean,—such as lipase, oxidase, and peroxidase,—is the main objective of processing. The action of these enzymes is believed responsible for the development of free fatty acidity, and also for developing aldehydes and ketones and destroying vitamins A and D. Another aim of processing is the removal of the characteristic beany taste of the flour, which sometimes induces a prejudice against it.

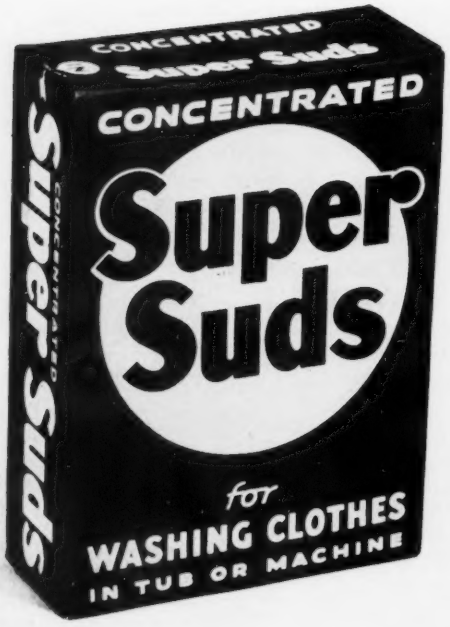
Soybean flour, after being properly processed, can be safely stored because the lecithin contained in it protects the oil from oxidation. The oil, however, is believed to cause the development of lumps in soy flour during storage. The addition of soy flour to various foods has been experimented with and it has been found to add much-sought smoothness to all of them. It is being introduced as an ingredient of chocolate and ice cream.

Soy flour is said to be at least equal to eggs in lecithin content and has been used in place of egg yolks in alimentary pastes. Such addition, however, has been classed as adulteration by the United States Government. The advantages of the flour lie in its high food value,—its protein content being several times that of ordinary flour,—averaging around 40 per cent, and its low starch content, which make it valuable as a food for diabetics and others who must have low starch rations. Whole

(*Turn to Page* 77)

New Products

Two gift packages put out by Wrisley of Chicago for the Christmas trade. Left: Pine cone soap, bath oil, and cologne in deep green package with pine odor. Retails at one dollar. Right: Gardenia soap and toilet water, also in deep green box. Retails at seventy-five cents.

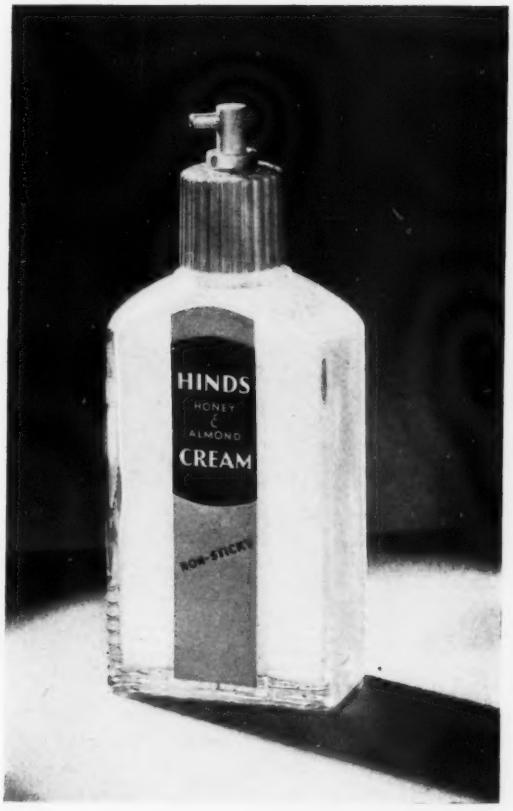


A new type of Super Suds by Colgate-Palmolive-Peet. A new granulated soap product especially designed for washing clothes. Comes in blue box, a companion product to the well-known bead form of regular Super Suds in its red box.

A simple and effective Christmas gift built around the famous Cashmere Bouquet toilet soap of Colgate. A large cake of Cashmere Bouquet soap with bottles of hand lotion and toilet water in matching odor.

and Packages

Four large bars,—they weigh six ounces,—of Honeysuckle toilet and bath soap by Eavenson of Camden in attractive tan and white box to match the soap color. This new Eavenson item is also offered in six other odors and colors, including lavender, lilac, gardenia, cologne, and carnation.



Lehn & Fink dress up their package for the well-known Hinds Honey and Almond Cream with a new molded cap and dispenser attachment. It replaces a separate metal dispenser formerly used. The cap, which is of Bakelite, is operated by inverting the bottle and pressing the top.

Mirror Bright Furniture and Automobile Polishes of the Mirror Bright Polish Company of Pasadena, Calif., makes its appearance in a new container. The polishes are light tan and pink emulsions with gold foil and silver foil labels respectively. The bottles are the classic oblong, stock bottles by Owens-Illinois, with black metal caps.

TURNER

INDUSTRIAL CHEMICALS

Caustic Potash

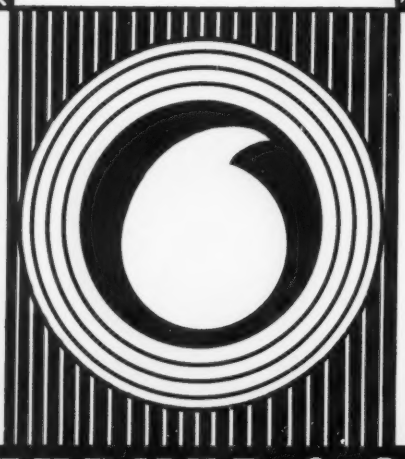
Carbon Tetrachloride

Liquid Caustic Soda

TANK TRUCKS—DRUMS

Local delivery tank truck service throughout the Metropolitan New York area.

Tri-Sodium Phosphate



Stearic Acid

JOSEPH TURNER & COMPANY

38 EXCHANGE PL. PROVIDENCE · 500 FIFTH AVE., NEW YORK · 40TH ST. & CALUMET AVE., CHICAGO

SUPPLIERS OF CHEMICALS FOR OVER 70 YEARS

NEWS . . . . . .

New Gold Dust Firm Name

The name of Gold Dust Corp., New York, has just been changed to Hecker Products Corp. A plan for liquidation of the domestic operating subsidiary companies of the corporation has been approved and will be made effective as soon as practicable. Under the plan, new divisions will be set up for soaps, polishes and the various foodstuff lines.

To Advertise "Wilson" Cleaner

Benson & Dall, Inc., Chicago, has been appointed by Wilson Chemical Company, Chicago, to handle advertising of the "Wilson" cleaner. Magazines, radio, and newspapers will be used.

Deupree Talks to Grocers

R. R. Deupree, head of Procter & Gamble Co., was one of the speakers at the annual convention of the Associated Grocery Manufacturers of America, held at the Waldorf-Astoria, New York, November 20 to December 2. He spoke on "Employer-Employe Relationships."

Lahoud Off to Porto Rico

Felipe Lahoud of Lahoud Products, Inc., soap manufacturers, L. I. City, N. Y., sailed November 26 for Porto Rico. He planned to visit the company branch plant in San Juan and will return to United States in January, 1937.

Offer Photos With "Olivilo"

A test campaign on "Olivilo" soap, in which a free photograph is being offered with the purchase of four bars of soap, has been launched in Chicago by Allan B. Wrisley Distributing Co. No special pack of four bars, and no special prices are being advertised in connection with the offer, which may be extended to other cities throughout the country where "Olivilo" has distribution if the Chicago test proves successful.

A. W. Erickson Dies

Alfred W. Erickson, a member of the executive committee of Bon Ami Co., New York, and chairman of the board of McCann-Erickson, Inc., New York advertising agency, died recently in Pasadena, Calif.

Soap Ad Allowances

Colgate-Palmolive-Peet Co. has recently issued a new contract covering advertising allowances made necessary by passage of the Robinson-Patman Act which contained certain clauses regulating such allowances. The new contract is retroactive to cover any advertising that may have been run since June 19 when the R-P act went into effect. Lever Bros. are also reported to be preparing a new advertising contract.

Talks on Soap Making

John F. Savage, head of Albert Soaps, Ltd., Montreal, spoke on the manufacture of soap at a meeting of the Westmount Rotary Club in Montreal, November 28.

Market Floating Soap

Andrew Jergens & Co., Cincinnati, are now manufacturing a floating, milled toilet soap, under license from R. A. Jones & Co., also of Cincinnati, holders of the patents. In the manufacturing process, as the soap bar issues from the plodder a small rectangular opening is formed in the center. Pressing on a special Jones' automatic press closes the ends in a "V" shape, as the cakes are suitably stamped. The new Jergens soap is called "Air-Cell" toilet soap. In the 5 and 10 cent store field, Woolworth were one of the first to stock it.

P. & G. Raise Wages 7½%

Procter & Gamble Co. announced November 24 a wage increase of approximately 7½ per cent and a bonus to factory workers and clerks aggregating 4 per cent of their earnings for the year ending December 31. Approximately $1,000,000 is involved in the P. & G. distribution, and some 8,000 workers as well as employees in twenty district offices will share the benefits. The wage raise will go into effect January 1 and the bonuses will be distributed as soon after that date as practicable.

Kirkman Appoints Ayer

N. W. Ayer & Son, Inc., have been appointed advertising agents for the entire line of soap products manufactured by Kirkman & Son, Brooklyn.

Scholler Bros. Add Space

Scholler Bros., Ltd., St. Catharines, Ont., manufacturers of textile soaps and specialties are building a two-story addition to their plant.

Shaving Cream Agents

Luckey Bowman, Inc., New York, has recently been appointed to direct the advertising of Next, Inc., Mineral Wells, Texas, manufacturer of a new brushless shaving cream.

Soap Committee Meets

The soap and detergent committee of the American Society for Testing Materials held a progress meeting December 3rd at the Hotel New Yorker, New York, to coordinate work of the various sub-committees on the proposed soap specifications now in course of prepara-

tion. A meeting of the full committee took up most of the morning session and after lunch separate meetings presided over by the various sub-committee chairmen considered their own special problems. The general chairman of the full committee is Harry P. Trevithick, New York Produce Exchange.

Refuse Oil Tax Writs

In a decision handed down November 9 the U. S. Supreme Court denied petitions of several soap makers asking for writs of certiorari in suits which they have brought to enjoin collection of the excise tax on first processing of imported oils. In its decision the court did not pass in any way on the constitutionality of the tax measure, but merely told the complainants in effect that they must contest the tax in the usual way—that is, they must pay the tax, make claim to the Treasury for refund, and if claim is denied (or not acted on for six months), they must institute regular lawsuit in the courts. Several such suits have been instituted, the most recent by Haskins Bros. & Co., Omaha. Haskins filed suit November 12 against George W. O'Malley, Collector of Internal Revenue for the District of Nebraska, for refund of the taxes paid on processing of Philippine coconut oil as required by Section 602½ of the Revenue Act of 1934. The suit is in the Omaha Division of the District Court of the United States for the District of Nebraska. The point at issue is whether or not the company is entitled to refund because of alleged unconstitutionality of the taxing statute.

Hercules Acquires PMC

Hercules Powder Co. has acquired the assets of its subsidiary, Paper Makers Chemical Corp., which became associated with it in October, 1931 and had been operated as a separate company since that date. The business of the company will now be handled by the Paper Makers Chemical Department of Hercules Powder Co., with W. J. Lawrence, formerly president of PMC, general manager. Mr. Lawrence has been elected a vice president of Hercules.

P. & G. Advance Prices

Prices of several soaps were advanced 10c a case by Procter & Gamble Co. late last month, the advances figuring out at slightly more than 4 per cent. Continuing strength of raw materials indicates possible further broad advances throughout the trade.

Named in R-P Complaints

A series of complaints charging violation of the Robinson-Patman amendments to the Clayton Act have been made by the U. S. Federal Trade Commission citing a number of defendants in the toilet goods industry. Among those named are Bourjois, Inc., New York, and two subsidiaries, Richard Hudnut, New York, and one subsidiary, Coty, Inc., New York, and four subsidiaries, and Elmo, Inc., Philadelphia, and one subsidiary. Practices complained of include payment of P.M.'s, employment of demonstrators on alleged discriminatory discounts, and advertising allowances alleged to be not available to all customers on proportionate basis.

Bristol-Myers Profits Up

Bristol-Myers Co. has announced that consolidated net earnings for the nine months ending Sept. 30 were $1,993,768.52, compared with $1,828,978.79 for the same period of 1935. Earnings for the 12 months ending Sept. 30 were $2,397,362.53 which was $168,308.36 more than for the twelve months ending Sept. 30, 1935. The regular quarterly dividend on common stock was increased from 50 cents to 60 cents per share and an extra dividend of 20 cents per share was declared, payable Dec. 1 to holders of record Nov. 13.

Solventol Sales Moves

Solventol Sales Co., Chicago, Ill., soap specialties and industrial chemicals, have moved from 715 W. Grand Ave. to 160 E. Illinois St.

Weco Soap Moves

Weco Soap Co., Boston representatives of J. Eavenson & Sons, Camden, have moved to 2 Portland St. from 105-107 Canal St. Wm. Engleman is Eavenson's New England representative.

Name Gold Dust Distributor

Hecker Products Corp., New York, has recently appointed Massey-Thompson, Oklahoma City, distributor for "Gold Dust" and "Silver Dust" in Oklahoma.

Toiletries Trade Conference

Members of the toilet preparations industry held a stormy trade practice conference at the Hotel Astor, New York, November 19. They ended their day of discussion by adopting a number of trade practice rules for the industry and refusing one rule in particular which they feared would outlaw "P.M's." The conference was complicated by the fact that no one was willing to interpret the meaning of the various rulings, it being pointed out by representatives of the Federal Trade Commission who presided at the conference that their function was to enforce the law and leave interpretation to the courts. Various members of the industry took the position that in this situation it seemed pointless for the industry to go on record as approving something the meaning of was not yet clear. They argued that if the practices outlined were included in the Robinson-Patman Act, the industry will be bound by this law in any case, whether it makes any advance agreement or not.

In spite of much objection, the various rules were adopted as proposed until rule 11 in Group I was reached, covering payment of "push money." The meeting split wide open on this rule and ended up by casting a tie vote on section (b) of rule 11 which read as follows in the proposed form submitted to the meeting: "For any member of the industry to pay, or contract to pay, directly or indirectly, to clerks or

sales persons of customers a bonus, known as 'push money,' over and above any compensation received by such persons, as an inducement and encouragement to push or stress the merits of such member's product or products over competing products of other members of the industry, with the tendency to suppress and stifle competition, or with the tendency and capacity or effect of producing in the marketing of the goods a condition which is deceptive to the consuming public, is an unfair trade practice." Section (a) of rule 11, providing that if "P.M's." were paid they must be available to all buyers on proportionately equal terms, was adopted. The meeting also went on record as approving both sections of rule 12 which governs employment of demonstrators.

The next step is now a study of the proposed rules by the Federal Trade Commission and their resubmission of the revised rules to the industry for final acceptance or rejection by individual firms.

Revise Oil Freights

Revision of freight rates on vegetable, fish, sea, animal, and red oils throughout the United States, to provide higher rates for deodorized oils than for those not deodorized, has been proposed by the Interstate Commerce Commission as the solution to a two-year controversy over discrepancies between rates on edible and inedible oils. Schedules filed by the railroads two years ago proposing to make vegetable oil rates inapplicable to oil, when shipped in a container of less than 42 gallons capacity were cancelled by the F.T.C. The railroads are now free to file new tariffs based on the commission's suggestion.

Want Shaving Soap Agency

A firm in Cairo, Egypt, is interested in purchasing and acting as agents for shaving creams and soaps. Interested American concerns may communicate through the U. S. Burear of Foreign and Domestic Commerce, mentioning Inquiry No. 1875.

Soap Assn. Meets in N. Y.

The annual meeting of the Association of American Soap & Glycerine Producers was held December 3 in the Hotel Biltmore, New York. Among the business scheduled for the meeting was the election of directors and officers for the coming year. The nominating committee consisting of A. Roy Robson, Philadelphia, chairman, F. A. Countway, Lever Bros. Co., Cambridge, and N. S. Dahl, John T. Stanley Co., New York, presented the following names as nominees for the board of directors for the coming year: Homer D.Banta, Iowa Soap Co., Burlington, Iowa; N. R. Clark, Swift and Co., Chicago; S. Bayard Colgate, Colgate-Palmolive-Peet Co., Jersey City; F. A. Countway, Lever Bros. Co., Cambridge; N. S. Dahl, John T. Stanley Co., New York; R. R. Deupree, Procter and Gamble Co., Cincinnati; G. A. Eastwood, Armour and Co., Chicago; Samuel S. Fels, Fels and Co., Philadelphia; F. H. Merrill, Los Angeles Soap Co., Los Angeles; W. C. Wollen, Olive Oil Soap Co., Paterson, N. J.; George A. Wrisley, Allen B. Wrisley Co., Chicago; and C. F. Young, Davies-Young Soap Co., Dayton, O. Officers were subsequently elected by the new board of directors.

S. Bayard Colgate

Adopt Soap Regulations

Regulations covering the composition and marking of soap powders, imported or domestic, sold in Lithuania, will go into effect January 1.

1937 Soap Publicity

An extensive program of publicity on soaps and cleanliness is planned by the Association of American Soap & Glycerine Producers for 1937. Newspapers will be supplied with "Cleanliness Clips," a bulletin containing readers for use on household pages. Radio talks on cleanliness will be offered broadcasting stations, and periodic bulletins on training in cleanliness will be offered to school teachers, welfare workers and home economists. The cost of the campaign will be borne pro rata by companies desiring to contribute. The budget and basis of contribution were to be discussed at the annual meeting of the association in New York December 3.

New C-P-P Product

"Concentrated Super Suds," a companion product to "Super Suds," is being introduced nationally by Colgate-Palmolive-Peet Co., after tests in 13 cities during the past two years. The new product, a granulated soap, is packed in a blue box, as contrasted with the red used for regular "Super Suds." Initial merchandising consists of a "two-for-one" offer, two packages of "Concentrated Super Suds" being sold for 21 cents, while the regular price is 20 cents each.

New Chromium Cleaner

A new cleaner for chromium plated surfaces has been announced by the Chemical Supply Co., Cleveland. The product is stated to be especially designed for use on chromium surfaces such as automobile parts, bathroom fixtures, etc. and also on Monel metal surfaces such as sinks, bars, lunch counters, and the like. The product is being offered only to the jobbing trade in containers from 55 gallon drums down to one gallon cans. Chemical Supply Co. is located at 2455 Canal Road, Cleveland.

Perfect Wrapping to win SALES

Utmost economy to increase PROFIT

The makers of Palmolive, Camay, Lux and numerous other soap manufacturers all use our wrapping machines.

They appreciate the importance of a perfectly wrapped, smooth-looking package in appealing to feminine taste. They also find that our machines handle the product without in any way marring its delicate surface.

The high speed at which these machines operate produces the maximum volume with the smallest amount of labor, and the utmost economy of material and floor space. These savings add to profit.

We make many different types of machines to fill practically every wrapping need. We will be glad to study your special requirements and give you the benefit of our experience. Get in touch with our nearest office.

PACKAGE MACHINERY COMPANY, Springfield, Massachusetts
NEW YORK • CHICAGO • CLEVELAND • LOS ANGELES
MEXICO, D. F., Apartado 2303
Melbourne, Australia: Baker Perkins, Pty., Ltd.
Peterborough, England: Baker Perkins, Ltd.

PACKAGE MACHINERY COMPANY

Over 200 Million Packages per day are wrapped on our Machines

Louis Levy Honored

Louis Spencer Levy, former publisher of *The American Perfumer*, has been honored by the French Government with the decoration of a Chevalier of the legion of Honor. The presentation was made in New York by the French Consul General, Charles de Fontneuvelle. The award was made in recognition of the work of Mr. Levy over a long period of years in developing the American market for French perfuming materials and other raw materials. In 1931, Mr. Levy was awarded the Hudnut Medal, created by Richard Hudnut, which is presented to those who have done most to develop the American toilet goods industry. He has been a well-known figure in the toilet goods industry since 1906. Mr. Levy's publication, *The American Perfumer*, was sold about a year ago to the Robbins Publishing Co. It was founded by the late W. G. Ungerer of Ungerer & Co. about thirty years ago.

Chicago Perfumers Meet

At the November 10th meeting of the Chicago Perfumery, Soap and Extract Association held at the Lake Shore Athletic Club, major attention was devoted to legislative matters. J. H. Helfrich, chairman of the legislative committee discussed the status of current legislation affecting the industry as did the association's attorney, John S. Hall. Copies of the proposed Trade Practice Rules for the toilet goods industry were distributed.

Offers New Waxes

Albert Albek, Inc., Los Angeles, is offering two new water-soluble waxes, "Aqua-Cera" and "Emulso-Cera," for use in the production of cosmetics, shaving creams, polishes, etc. "Aqua-Cera" is white in color, has but a slight odor and a melting point 84.5° C. It is an excellent low-cost emulsifier, recommended for use in shaving creams, brushless shaves, cold creams, lotions, etc. "Emulso-Cera" is light yellow in color and offers the particular advantage of high emulsifying properties. It is particularly useful in polishes, creams, lotions, etc. A number of formulas have been worked out involving use of the new products and samples and formulas are available on request.

Walter A. Seltmann Dies

Walter A. Seltmann, vice-president of van Ameringen-Haebler, Inc., New York, and chief perfumer for that organization, died November 21 at his home in Montclair, N. J. after a protracted illness. Mr. Seltmann was sixty years of age, having been born in New York City in 1876. He was a graduate of Columbia University. He had had many years' experience as a practical perfumer, the last sixteen of which was in association with van Ameringen-Haebler, Inc. and with A. L. van Ameringen. Funeral services were held from his home at Montclair on November 23.

Open Snow Brokerage Offices

Snow Brokerage Co., formerly represented in New York by Snow & Cleaver, have opened a New York office under the firm name at 15 William Street. The New York branch will be under the management of Joseph Hart with Margaret Weber as a vegetable oil broker. Miss Weber is one of the two women in the vegetable oil business in New York, having started as a stenographer with Sterne & Son. Mr. Hart has been in the oil business for seventeen years. First associated with J. C. Francesconi, he later joined the Williams Trading & Commission Co. Snow Brokerage now has branches in New York, Chicago, Los Angeles and San Francisco.

Eastern Industries Moves

Eastern Industries, Inc., distributors of oils, fats, chemicals, and allied materials for the soap and other consuming industries, have moved their offices and warehouse to new and larger quarters at Ridgefield, N. J. The firm was formerly located at Harrison, N. J. W. B. Mullen is president of the company.

Ambest Cleaner Co. Moves

Ambest Cleaner Co., H. F. Coon, manager, manufacturer of cleansers, has moved from 451 W. Larned St., Detroit, at which address it was located for 15 years, to 429 Wayne St.

Mary Colgate Will Filed

The will of the late Mary Colgate, granddaughter of the founder of the Colgate soap business, bequeaths more than $900,000 to religious and philanthropic institutions. Other bequests include $600,000 to Miss Colgate's brother, James Colby Colgate of Bennington, Vt., and $50,000 to Margaret Colgate Dennis of Bennington.

Packers Advance Wages

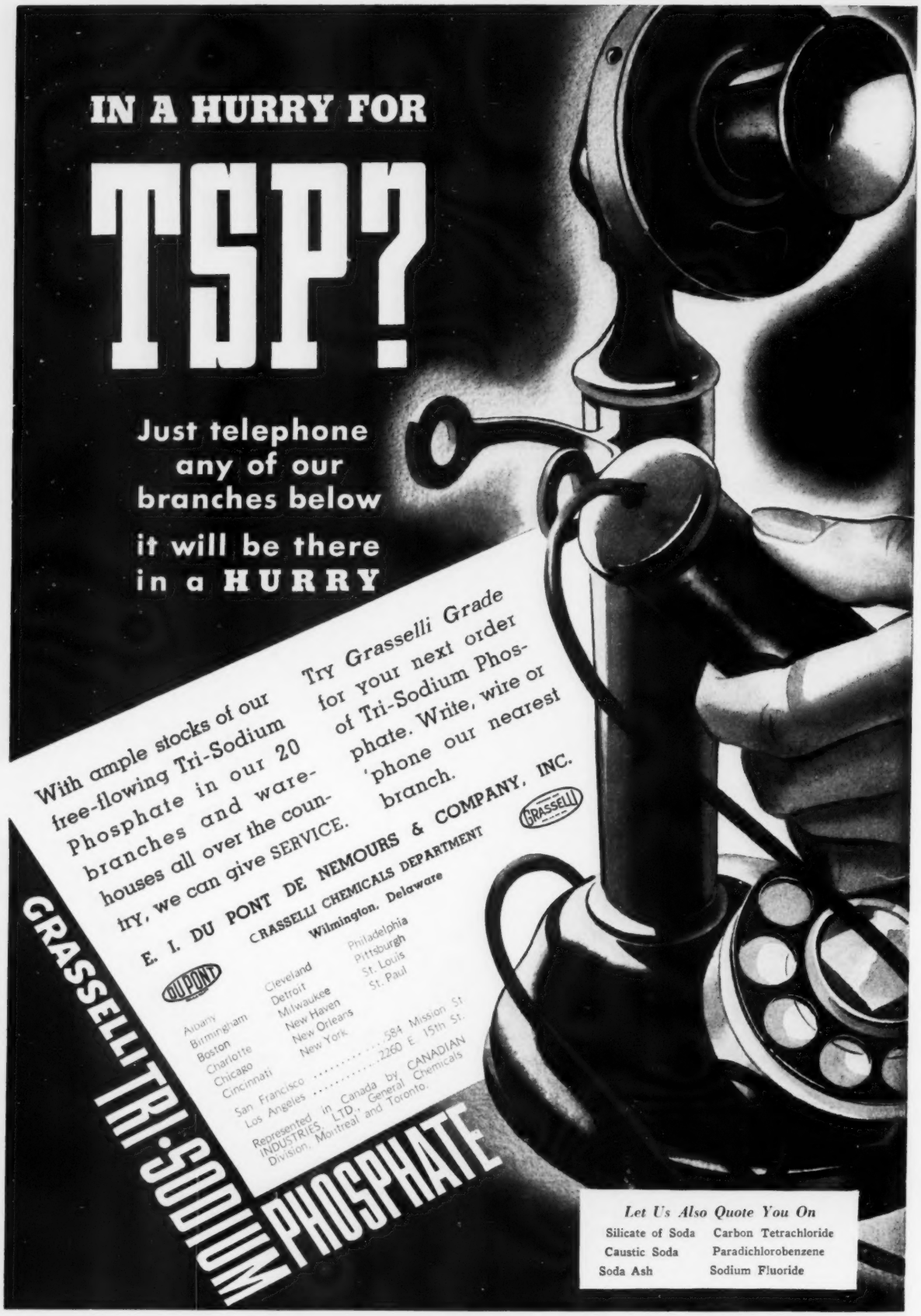
Packing firms, including Armour, Swift, Cudahy and others also engaged in the soap business, advanced wages 7 per cent effective November 1.

Check Cleaner Claims

Novel-Wash Co., 4045 Garfield Ave., St. Louis, trading as Biancolava Chemical Co., engaged in the sale of a cleaning fluid under the trade names "Novel-Wash" and "Biancolava," has signed a stipulation with the U. S. Federal Trade Commission, agreeing to discontinue advertising that its product is a liquid solution of chlorine and is non-poisonous; that it will sterilize and disinfect at the same time, or will remove all stains, and that it is a deodorizer, antiseptic, and will promote health.

New Silicate Soaps

Standard Silicate Co., Pittsburgh, reports that laundry chips made with their new silicate, "H-S Compound," are selling well wherever they have been introduced. According to the producers, tests show a chip with 50 per cent soap content, made with "H-S Compound," lathers as well as one containing 75 per cent soap and made with regular silicate. The new silicate is said to produce better appearing soaps for the lower priced market.


IN A HURRY FOR
TSP?
Just telephone any of our branches below it will be there in a HURRY
With ample stocks of our free-flowing Tri-Sodium Phosphate in our 20 branches and warehouses all over the country, we can give SERVICE.
Try Grasselli Grade for your next order of Tri-Sodium Phosphate. Write, wire or 'phone our nearest branch.
E. I. DU PONT DE NEMOURS & COMPANY, INC.
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Represented in Canada by CANADIAN INDUSTRIES, LTD., General Chemicals Division, Montreal and Toronto.
GRASSELLI TRI-SODIUM PHOSPHATE
Let Us Also Quote You On
Silicate of Soda
Caustic Soda
Soda Ash
Carbon Tetrachloride
Paradichlorobenzene
Sodium Fluoride

Atkinson Dead

Harry J. Atkinson, Boston sales manager for Procter & Gamble Co., recently died at the home of his sister in Jersey City after an illness of six months. He was fifty-seven years old.

Orton Laboratories to Expand

Orton Laboratories, 1319 Henry Street, Detroit, manufacturers of cosmetics and shampoos founded six years ago, plan expansion in the near future with the acquisition of additional capital.

Rancidity Prevention

A product designed to prevent rancidity in soaps, as well as vegetable and animal oils, is being offered by R. F. Revson Co., New York, under the name "Antirancidol." This preparation is a pure cream colored chemical with a slight aromatic odor. It is quite soluble in alcohol and water and to a limited extent in oils, sufficient to allow it to exert its properties. While authorities have stated that the material is non-toxic, it is offered solely to preserve materials that are not used internally. It does not cause any skin irritation. The amount to be employed is small, being from .015 to .03 of 1 per cent. This is equivalent to 150 to 300 mg. per kilo or 9 grams per hundred pounds. As far as is known "Antirancidol" has no deleterious effect upon colors or odor.

Avirol Now Avitex

A change in the name of Brilliant Avirol to Avitex is announced by the organic chemicals department of E. I. du Pont de Nemours & Co., Inc. The products are the same line of finishing agents derived from the higher fatty alcohols, the change being in the name only *Textile World* **86,** 2134-5 (1936).

Packaging Assn. Elects

The fourth annual meeting of the Packaging Machinery Manufacturers Institute was held on November 11 and 12, 1936, at the Edgewater Beach Hotel, Chicago, with more than fifty in attendance. The following directors were elected to serve for a three-year period: H. H. Leonard, Consolidated Packaging Machinery Corp., Buffalo; H. Kirke Becker, Peters Machinery Co., Chicago; and Roger L. Putnam, Package Machinery Co., Springfield, Mass. Officers for the ensuing year were reelected as follows: H. H. Leonard, president; Wallace D. Kimball (Standard-Knapp Corp.) and Morehead Patterson (American Machine and Foundry Co.) vice-presidents; H. L. Stratton, secretary-treasurer.

P. & G. Officers Re-elected

Directors of Procter & Gamble Co. re-elected all officers at their recent organization meeting. Directors were renamed by stockholders at their annual meeting of the company. Earnings for the third quarter were $6,629,564, highest for the period in the company's history, president R. R. Deupree announced.

Mrs. James Parry Dies

Mrs. James G. Parry, wife of James G. Parry of Procter & Gamble Co., Cincinnati died at her home in Cincinnati, November 20. Services were held November 23. Mr. Parry is in charge of sale of bulk products for P. and G.

Soap Payrolls Gain

The payroll index for the American soap industry, based on the 1923-1925 average as 100, advanced from 100.9 in September to 105.7 in October, 1936, this comparing with 99.3 for October, 1935. The employment index was 107.0 in October, 1936, as compared with 106.8 in September and 103.6 in October, 1935.

George Huisking Dies

George Huisking, manager of the Chicago branch of Chas. L. Huisking & Co., New York, died in a Chicago hospital, November 22, following injuries received in an accident two days previous.

Reorganize La Dana, Inc.

S. Hickell, president of La Dana, Inc., cosmetics and toilet preparations, 717 South 16th St., Omaha, has announced plans for a reorganization of his company. An enlarged sales force will be employed and a sales drive will be centered on a new product, "Olivene" shampoo.

Fire at Staley Plant

Extensive damage to the Decatur, Ill. oil refinery of A. E. Staley Manufacturing Co. was caused in a fire early last month which is believed to have resulted from spontaneous combustion. The Staley corn and soybean refinery was said to be the largest in the country. It was shortly to be abandoned after completion of a new plant now under construction.

Allow C-P-P Dividend

The Government of Poland which restricts transmission of funds to foreign countries has made an exception in the case of the Colgate-Palmolive Spolka Z. O. O. of Warsaw, permitting the concern to remit a dividend of six per cent for the current year to American share holders.

Oil Index Slightly Lower

The oils and fats price index, as compiled by the Bureau of Raw Materials for American Vegetable Oils and Fats Industries, declined from 110.7 in September to 108.4 in October, 1936. This index was 117.5 in October, 1935. The index numbers of various oils and fats for the months of September, 1936 and October, 1936 are as follows:

	Oct. 1936	Sept. 1936
Corn oil	147.1	155.0
Cottonseed oil	151.8	154.3
Castor oil	102.1	102.1
Coconut oil*	68.3	62.5
Grease	107.3	101.8
Linseed oil	107.8	113.0
Menhaden oil	98.2	93.3
Olive oil	148.7	185.9
Olive oil foots	131.3	131.5
Palm oil*	63.0	65.5
Palm kernel oil*	60.7	54.7
Tallow	96.1	96.7
Whale oil	106.1	104.9

* Tax not included.

GERANIOL for SOAP

In various grades to meet every requirement as to price

•

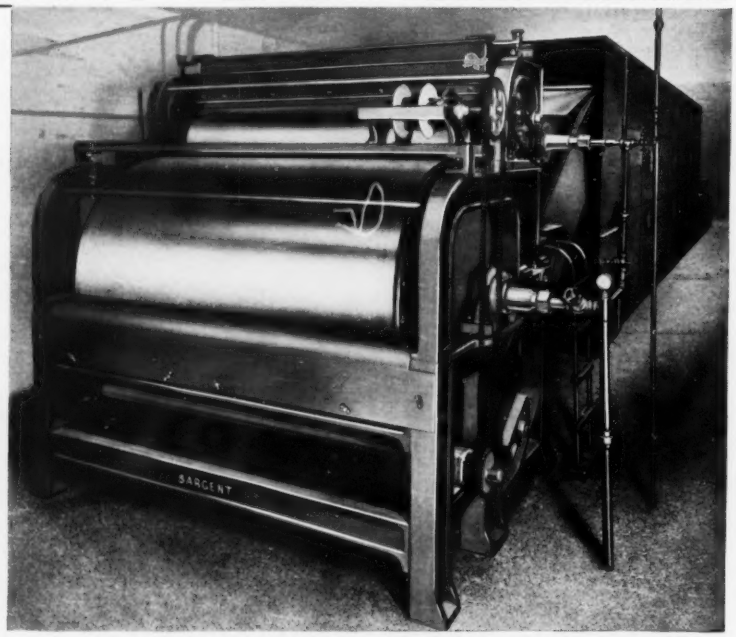
A. M. TODD COMPANY

KALAMAZOO, MICH.

Business established in 1869

New!..

a Soap Chilling Roll and Drying Machine



AS the title indicates, the Rolls are NEW and the entire machine is NEW, many valuable improvements having been perfected until this latest Sargent development is now one of the very finest Rolls obtainable.

To the soap manufacturer, the most important angle is to have a *thin, uniform chip* . . . readily accomplished by these new Rolls being expertly machined, ground and set. Finest grade of cast iron. Vari-speed controls on both Rolls insures easy adjustment . . . every part accessible. Drive improvements reduce the horsepower used. Changes made at a minute's notice. The Dryer is entirely re-designed. Its housing gives better insulation and cuts down steam consumption per hour. Other valuable changes have been made in the circulating and exhaust air systems . . . and all *fans* are *direct motor driven.*

C. G. SARGENT'S SONS CORP. GRANITEVILLE MASS., U. S. A.

Restrain "Afta" Claims

Afta Solvents Corp., 460 W. 128th St., New York, manufacturer of "Afta" spot remover, has been ordered by the U. S Federal Trade Commission to cease representing that this fluid will remove spots from fabrics or other articles and leave no spot or ring visible in the place from which foreign matter has been removed. The order also prohibits the representation that this fluid will not injure the color of fabrics to which it is applied. These representations are prohibited unless the product is so made that its application to fabrics and other articles will in fact remove foreign matter without causing spots or rings to appear and without causing fabrics' colors to dissolve or "run."

Chicago Club Hears Dr. Mayer

Dr. Franc David Mayer, president of the Merchandising Institute of America, was the guest speaker at the noonday luncheon meeting of the Chicago Drug and Chemical Association held at the Chicago Athletic Association on November 19th. Dr. Mayer talked on the subject of "Thinking Success Into Business."

Fitch Executives Sail

F. W. Fitch and L. R. Sandahl, president and sales manager respectively of F. W. Fitch Co., Des Moines, sailed from New York for London November 7. They planned to be gone about four weeks, investigating British manufacturing and marketing methods, with a view to extending sale of Fitch products in the British market.

Cited for Soap Sales Tactics

Unfair competition through excessive price marking of soap, is alleged in a U. S. Federal Trade Commission complaint issued against Indianapolis Soap Co., Indianapolis, Ind., trading also as Sanisoap Co. and W. W. Soap Manufacturing Co. Cardboard boxes containing soap sold by the respondent company principally through house-to-house canvassers, were marked "3 bars—combination price, 75 cents," when in fact, these prices were many times in excess of the actual selling price. This is alleged to have deceived purchasers into believing that they were receiving a soap of much greater value than the price charged would indicate. Such tactics are in violation of Section 5 of the Federal Trade Commission Act, according to the complaint. Friday, December 11, is the date on which the respondent company may show cause why an order to cease and desist from the practices alleged in the complaint should not be issued against it.

Diversey Sales Meeting

Diversey Corp. of Chicago, manufacturers of a complete line of cleaners for food plants, will hold their annual sales conference the week of December 14. Recent advances in the science of cleaning and sterilizing food handling equipment will be presented in detail to the entire sales force. Particular attention will be given the two latest Diversey developments — "Novex" for can washing and "Dico" for bakery cleaning.

New Fritzsche Products

Fritzsche Bros., Inc., New York, have just announced two new perfuming materials which are said to represent substantial improvements over materials previously in use. One of the new materials, Heliotrope Fleurs Concrete, is offered as a replacement for heliotropin. It is said to be sweeter and stronger, more like the natural flower, and less subject to discoloration than heliotropin. The other new product, Oil Labdanum, Extra Fine, Seillans, is said to be superior to other labdanum preparations in that it contains no inert ingredients of the gum itself, nor is it subject to the usual objectionable discoloration.

Adds New Cleaning Compound

Ajax Chemical Co., 455 W. Jefferson Detroit, is introducing a new industrial cleaning compound.

Offer Refrigerator Cleaner

Production is now under way on a cleaner for refrigerators, autos, etc., at Neilson Chemical Co., 6564 Benson, Detroit.

Dr. and Mrs. Felton Return

Dr. and Mrs. Jos. Felton of Felton Chemical Co., Brooklyn, returned to United States recently on the S.S. *Berengaria* from an extensive European trip. While in France, they visited the flower fields and factories of Grasse. They also visited the general European offices of Felton Chemical Co. in London.

George Chemical Moves

George Chemical Co., New York, has recently moved into new quarters in the International Building., 630 Fifth Ave. The new telephone number is CIrcle 7-8221.

Mysore Official Sails

T. V. A. Isvaran, London trade commissioner for the Mysore Government, sailed for England on the *Europa*, November 6, after a visit in the United States. While in New York he made his headquarters with W. J. Bush & Co., agents for sale of the Mysore Government sandalwood oil in United States.

Barred from Making Lanolin

A final decree has been given Bopf-Whittam Corp., Westfield, N. J., in the Chancery Court, Elizabeth, N. J., by Vice Chancellor Malcolm G. Buchanan, permanently restraining Michael P. Gutowski a former employee, and his associate Stanley Czech, trading as the Genuine Chemical Works and associates now trading as the Lanaetex Products Co., 824 Livingston Street, Elizabeth, N. J., from manufacturing lanolin and woolfat products and or disclosing process.

Seeks Maker of "Keefer"

A SOAP subscriber wants to locate the name and address of the manufacturer of Keefer Laundry Tablets. The publishers of SOAP will appreciate receiving this information.

New! ISCO REFINED WAXES CARNAUBA . . . . . CANDELILLA IN *Flake* FORM

ISCO Pure Refined CARNAUBA Wax is now offered in FLAKE, as well as Lump form. Melting point 183/184½° F. • This Refined CARNAUBA Wax makes an excellent base for auto and floor polishes, and for all water and oil soluble polishes.

•

ISCO Refined CANDELILLA Wax, also offered in Flake and Lump Form, is pure, refined from the crude material. In the process of refining all impurities, such as gums, rosin and dirt, have been removed—as far as physically and mechanically possible. Melting point approximately 159° F. ISCO processing minimizes its tackiness.

•

Used in polishes, ISCO Refined CANDELILLA is free from "drag." Heated to high temperatures it does not tend to darken. We recommend it as a substitute for Carnauba to the extent of 15 to 35% in the manufacture of polishes.

•

ISCO Flake Waxes come in *thin, light flakes,* more convenient to handle, more easily cut and saponified • These waxes are packed in bags weighing 125 to 200 lbs. each.

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Detailed information, samples and analyses will be supplied on request.

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CARBON TETRACHLORIDE
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DYES
DISODIUM PHOSPHATE
GLAUBERS SALTS
GLYCERINE
METASILCATE
OXALIC ACID
POTASSIUM CARBONATE
SAL AMMONIAC
SALT
SAL SODA
SILICATE OF SODA
SODA ASH
TRISODIUM PHOSPHATE
CASTOR OIL
COCOANUT OIL
CORN OIL
COTTONSEED OIL
LARD OIL
NEATSFOOT OIL
OLEIC ACID-RED OIL
OLIVE OIL
OLIVE OIL FOOTS
PALM OIL
PALM KERNEL OIL
PEANUT OIL
RAPESEED OIL
ROSIN
SALAD OIL
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Contracts Awarded

Hunnewell Gets Soap Award

Hunnewell Soap Co., Cincinnati, has been awarded a contract by the Jeffersonville, Ind. Quartermaster for 10,000 cakes grit soap, 10-12 oz., at 2.4c., to be delivered to Ft. McPherson, Ga.

Dishwashing Compound Bids

John A. Chew, New York, was the low bidder in a recent bidding opened by the Brooklyn Medical Dept. for 200,000 lbs. of dishwashing compound. The low bid was 1.37c.

Brooklyn Lye Award

Buckeye Soda Co., Cincinnati, was recently awarded a contract by the Brooklyn Medical Dept. for 25,000 cans lye at 3.958c.

Mop Wringer Bids

Barth Equipment Co., New York, was low bidder in a recent bidding on 250 mop wringers opened by the Brooklyn Medical Dept., at a price of $2.39 each.

Brooklyn Polish Award

R. M. Hollingshead Corp., Camden, has been awarded a contract by the Brooklyn Medical Dept. for 1,500 cans floor polish at $1.61 per can.

Floor Wax Award

Mitchell-Rand Mfg. Co., New York, was recently awarded a contract covering 1,000 cans floor wax at 61.2c. for the Brooklyn Medical Dept.

Metal Polish Award

R. M. Hollingshead Corp., Camden, has been awarded a contract for 12,000 cans metal polish for the Brooklyn Medical Dept. at 5.29c.

Cahn Gets Soap Award

A. L. Cahn & Sons were recently awarded a contract covering 20,000 bars scouring soap for the Brooklyn Medical Dept. at 3.04c.

Cleaning Compound Bids

Riverside Chemical Co., N. Tonawanda, N. Y., was the low bidder on 1,375 lbs. cleaning compound at a recent bidding opened by the U. S. Marine Corps, at Washington, D. C., with a price of 4.69c. Other bids were as follows: Crystal Soap & Chemical Co., 4.9c; Mirax Chemical Products Corp., 5.6c; and Oakite Products, 6.56c.

Ft. Sam Houston Soap

Day & Frick, Philadelphia, were recently awarded contracts covering 10,000 cakes grit soap, 10-oz. at 3.1c. and 10,000 cakes grit soap, 9-oz. at 2.5c. for the Ft. Sam Houston Quartermaster. Rosenberg Bros., San Antonio, were awarded 131,400 lbs. laundry soap at 3.84c.

Soap Award

Slater-Robbins Co., New York, was recently awarded a contract for 400 lbs. dry cleaning soap at 14c. by the Ft. Sam Houston Quartermaster.

Bleaching Powder Award

Mathieson Alkali Works, New York, has been awarded a contract by the Ft. Sam Houston Quartermaster covering 400 lbs. bleaching powder at 4.12c.

Naphthalene Award

Crystal Soap & Chemical Co., Philadelphia, was recently awarded a contract covering 10,000 lbs. of flake naphthalene for the Philadelphia Quartermaster, at a price of 6.95c.

Jeffersonville Soap Awards

Hunnewell Soap Co., Cincinnati, has been awarded a contract to supply the U. S. Army Quartermaster in Jeffersonville, Ind. with 6,785 cakes of grit soap, 10-12 oz., at 2c. Colgate-Palmolive-Peet Co., Jersey City, awarded 43,289 lbs. of laundry soap, 18-oz. cakes, at 3.63c. per lb.

Chicago Soap Award

Colgate-Palmolive-Peet Co., Jersey City, has just been awarded a contract covering 12,000 lbs. chip soap at 7.52c. for the Chicago Quartermaster.

Soda Awards

The Chicago Quartermaster has just awarded the following contracts for washing soda: Solvay Sales Corp., Chicago, 1,960 lbs. washing soda at 2.57c.; Detroit Soda Products Co., Washington, 10,920 lbs. laundry soda at 1.95c.; and Denver Fire Clay Co., Denver, 14,000 lbs. laundry soda at 2.625c.

Jeffersonville Soap Awards

The following awards have just been made by the Jeffersonville U. S. Army Quartermaster: Colgate-Palmolive Peet Co., Jersey City, 39,000 lbs. laundry soap at 4c. and 489,242 lbs. laundry soap at 3.6c.; Hunnewell Soap Co., Cincinnati, 3,000 cakes grit soap at 2.4c. and 58,331 cakes grit soap at 1.8c.

Naphthalene Award

Mefford Chemical Co., Los Angeles was recently awarded a contract by the Ft. Mason Quartermaster for naphthalene at 7.75c.

Jeffersonville Brush Awards

Ox Fibre Brush Co., New York, was recently awarded a contract covering 22,000 hand scrubbing brushes at 11.9c. each and Harry Barth, New York, was awarded 500 24-in. water closet brushes at 17c. each for the Jeffersonville, Ind. U. S. Army Quartermaster.

Jeffersonville Mop Awards

The Jeffersonville, Ind. Quartermaster recently awarded a contract covering 4,200 spring-lever mop handles at 12½c. to Erie City Mfg. Co., Erie, Pa., and a contract covering 18,000 cotton mops less handles to Semple Mfg. Co., Louisville, Ky., at 22c. each.

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Among the Users

Procter & Gamble Co.	Packer Mfg. Co.
Dow Chemical Co. (3)	Parke-Davis & Co.
Bristol-Myers Co.	Amer. Laundryowners Assn.
Wm. S. Merrell Co.	Upjohn Company
Valentine Laboratories	Mathieson Alkali Wks. (2)
Hilton-Davis Co. (2)	National Res. Council, Can.
Imperial Color Works	Univ. of Wisconsin (11)
Perkins Soap Co.	Glidden Corporation

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New Trade Marks

The following trade-marks were published in the Nov. issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Marks Filed

P-A-F—This in solid letters describing metal and shoe polish and detergent. Filed by V. H. Greffoz, Houston, Texas, April 1, 1936. Claims use since Feb. 11, 1936.

BLUE BEARD—This on round reverse plate with sketch of man's head inscribed, describing shaving creams and powders. Filed by Bectin-Seymour, New York, May 20, 1936. Claims use since May 15, 1936.

PROTECTO—This on round reverse plate describing cleaner. Filed by Jack D. Nicholas, St. Joseph, Mo., June 22, 1936. Claims use since May 1, 1935.

PINETEX—This in solid letters describing liquid cleanser. Filed by Frank George Bolte, Jr., Audubon, N. J., July 2, 1936. Claims use since Feb. 1, 1936.

V T—This on stencil, describing soap. Filed by Voorhis-Tiebout Co., Rhinebeck, N. Y., July 29, 1936. Claims use since Jan. 2, 1936.

SUNIE—This in fancy solid letters on sunburst design, describing shaving soap and cream. Filed by Basel Co., Cleveland, Aug. 18, 1936. Claims use since June 6, 1936.

ROCK-A-BYE BABY — This in solid letters describing cleanser and skin softener. Filed by Rock-A-Bye Co., New York, Sept. 12, 1936. Claims use since Aug. 30, 1933.

CALICO—This in solid letters describing poisoned seeds. Filed by Bagnall Co., Kansas City, Mar. 31, 1936. Claims use since Feb. 11, 1936.

DENTI-SET—This in solid letters describing tooth powder and mouth wash. Filed by Denti-Set Corp., Wilmington, Del., Sept. 4, 1936. Claims use since 1923.

VANEX—This in fancy solid letters describing liquid cleaner. Filed by Glass-Glow Co., Indianapolis, Aug. 14, 1936. Claims use since June 27, 1936.

BULL DOG—This in solid letters describing soap. Filed by John T. Stanley Co., New York, Aug. 25, 1936. Claims use since 1893.

STANLEY'S — This in solid script on green and purple rectangle describing lilac soap. Filed by John T. Stanley Co., New York, Aug. 25, 1936. Claims use since 1875.

KLEERPANE—This on oval shaped reverse plate describing window cleaning preparations. Filed by D. A. Collins Mfg. Co., Brooklyn, Aug. 28, 1936. Claims use since October, 1935.

BOJAY—This in solid letters describing shaving cream. Filed by Master Shaving Cream Co., Minneapolis, Sept. 12, 1936. Claims use since June 10, 1932.

GARDEN - PAK—This in solid letters outlined in green describing insecticides and fungicides. Filed by General Chemical Co., New York, June 25, 1936. Claims use since May 8, 1936.

DOUBLE ACTION—This in solid script describing insecticide. Filed by H. Clay Glover Co., New York, Aug. 12, 1936. Claims use since July 31, 1936.

MILO—This in solid letters describing dry cleaning soap. Filed by R. R. Street & Co., Chicago, June 1, 1936. Claims use since 1907.

SAVO—This in solid letters, describing cleaner. Filed by Cuyahoga Merchandising Co., Cleveland, June 17, 1936. Claims use since August, 1935.

FULL DRESS—This in solid letters with trade mark and sketch of couple dancing, describing shaving cream. Filed by Proctors Products Co., New Haven, Sept. 29, 1936. Claims use since Sept. 19, 1936.

NAPZOL—This on oval shaped reverse plate describing cleaning crystals. Filed by Parfums Duvee, Inc., New York, Sept. 30, 1936. Claims use since June 19, 1936.

LAUB'S RAT KISS—This in fancy solid letters describing rodent poison. Filed by Laub Rat-Kiss Co., Pekin, Ill., Aug. 3, 1936. Claims use since Oct. 1, 1934.

CAPITOL—This in outline letters describing tooth paste. Filed by General Cosmetics Corp., New York, Sept. 3, 1936. Claims use since Aug. 10, 1936.

GRANGER "77"—This in solid letters describing insecticides. Filed by Napco Products Co., Trenton, N. J., Sept. 3, 1936. Claims use since Jan. 2, 1936.

SOY-O-CIDE—This in solid letters describing stock spray. Filed by Nowak Milling Corp., Hammond, Ind., Sept. 8, 1936. Claims use since Aug. 25, 1936.

TRIPLE ACTION PROCTORS—First two words in solid letters, third in outline letters on rectangle, describing dental cream. Filed by Proctors Products Co., New Haven, Sept. 29, 1936. Claims use since Sept. 19, 1936.

"TERMINIZED"—This in solid letters describing insect proofing paint. Filed by Newton P. Easling, Pekin, Ill., Sept. 10, 1936. Claims use since March, 1936.

SINCO—This in solid letters describing household cleanser. Filed by G. M. Lewis Chemical Co., Canton, O., July 13, 1936. Claims use since Apr. 2, 1936.

READY - TO - CLEAN — This in striped letters on rectangle describing cleaning powder. Filed by R. J. Mfg. Co., Troy, N. Y., Sept. 3, 1936. Claims use since Aug. 1, 1936.

CANTERBURY HOUSE—This in solid letters describing soap. Filed by McKesson & Robbins, Inc., Bridgeport, Conn., Sept. 29, 1936. Claims use since Feb. 11, 1936.

G T A—This in solid letters describing rodent poisons. Filed by

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Athelstan Products Co., Minneapolis, Aug. 5, 1936. Claims use since Jan. 15, 1930.

ROTOXOLENE—This in solid letters describing concentrates for insecticides. Filed by R. J. Prentiss & Co., New York, Aug. 12, 1936. Claims use since June 1, 1936.

NAU'S 77—This in solid letters inscribed in circle, with sketch of man's head and lettering, describing mouth wash. Filed by Frank L. Nau, Portland, Ore., Aug. 15, 1936. Claims use since June 1, 1935.

VITA-BRITE—This in solid letters describing tooth paste. Filed by The Sheffield Co., New London, Conn., Aug. 21, 1936. Claims use since Aug. 5, 1936.

PETZOWN — This in outline letters describing antiseptic and shampoo. Filed by Humane Society of Baltimore County, Pikesville, Md., Sept. 10, 1936. Claims use since Aug. 1, 1936.

ROCHELLE OLEO-SHAMPOO—The first word in solid script, the second in solid letters, with sketch of woman's head, describing oil shampoo. Filed by Rochelle Products, Brooklyn, Sept. 12, 1936. Claims use since Sept. 1, 1936.

THOROUGHBRED—This in solid script describing shaving cream. Filed by Thoroughbred Pharmacal Co., Chicago, July 27, 1936. Claims use since June 1, 1936.

PET-ROLAX — This in outline letters, with first three letters much larger than rest, describing paste soap for petroleum solvent systems. Filed by Sterling Products Co., Easton, Pa., Sept. 16, 1936. Claims use since Aug. 29, 1936.

FIL-TROLAX—This in outline letters, with first three letters much larger than rest, describing fluid dry cleaning soap. Filed by Sterling Products Co., Easton, Pa., Sept. 16, 1936. Claims use since Aug. 29, 1936.

KAY-SAN—This on green oval shaped reverse plate describing medicated soap. Filed by Stenton Laboratories, Inc., Philadelphia, Sept. 24, 1936. Claims use since Aug. 15, 1936.

LUSTRAL—This in broken letters describing bottle washing compound. Filed by Diversey Corp., Chicago, Sept. 28, 1936. Claims use since March, 1925.

RELION—This in solid letters describing bottle washing compound. Filed by Diversey Corp., Chicago, Sept. 28, 1936. Claims use since March, 1925.

CODI'S REX STAR — This in outline letters with sketch of star and woman hanging clothes, describing disinfectant and bleach. Filed by Codi Laboratories Co., Pittsburgh, Sept. 28, 1936. Claims use since July 13, 1936.

Trade Marks Granted

339,948. Shaving Soap, Toilet Soap, Silver Cleaning Soap. Ferd. Mulhens, Inc., New York. Filed March 17, 1936. Serial No. 376,097. Published August 18, 1936. Class 4.

339,982. Soap. R. A. Jones & Co., Covington, Ky. Filed June 16, 1936. Serial No. 379,800. Published August 18, 1936. Class 4.

339,990. Toilet Soap. Wolf Creek Soap Co., Dayton. Filed June 18, 1936. Serial No. 379,917. Published August 18, 1936. Class 4.

340,016. Abrasive and Cleansing Powder. Du Bois Soap Co., Cincinnati. Filed November 27, 1935. Serial No. 372,050. Published August 18, 1936. Class 4.

340,024. Insecticides. Mabex Co., Philadelphia. Filed June 2, 1936. Serial No. 379,199. Published August 11, 1936. Class 6.

340,178. Cleaning Powder. Hygienic Products Co., Canton. Filed April 22, 1929. Serial No. 282,785. Published September 1, 1936. Class 4.

340,304. Fluids for Disinfecting Telephones. Saniphone Service, Ltd., Vancouver, B. C. Filed May 18, 1936. Serial No. 378,576. Published August 18, 1936. Class 6.

340,312. Insecticide. Superior Chemical Products, Inc., Philadelphia. Filed June 19, 1936. Serial No. 379,979. Published August 18, 1936. Class 6.

340,381. Shampoo. R. B. Semler, Inc., New York. Filed May 29, 1936. Serial No. 379,058. Published September 1, 1936. Class 6.

340,405. Cleaner for Rugs and Upholstery. Nefra Products, Inc., Dallas. Filed June 25, 1936. Serial No. 380,220. Published August 25, 1936. Class 4.

340,415. Cleanser and Polish. Cleartex Co., Oakland, Calif. Filed January 20, 1936. Serial No. 373,892. Published August 25, 1936. Class 4.

340,491. Hand Soap. Sugar Beet Products Co., Saginaw, Mich. Filed June 29, 1936. Serial No. 380,414. Published August 25, 1936. Class 4.

340,501. Shoe Cleaning and Polishing Compounds. It Shoe Polish Co., Baltimore. Filed July 3, 1936. Serial No. 380,571. Published August 25, 1936. Class 4.

340,543. Bath Salts and Water Softener. Yardley of London, Inc., Union City, N. J. Filed April 27, 1935. Serial No. 364,315. Published August 25, 1936. Class 6.

340,545. Metal Polish. Union Oil Co. of California, Los Angeles. Filed May 25, 1935. Serial No. 365,400. Published September 1, 1936. Class 4.

340,587. Insecticides. Bordman Co., Philadelphia. Filed June 2, 1936. Serial No. 379,184. Published Sept. 1, 1936. Class 6.

340,657. Insecticides. Hot Foot Chemical Co., Birmingham, Ala. Filed July 2, 1936. Serial No. 380,513. Published September 8, 1936. Class 6.

340,691. Soap. Northam Warren Corp., New York. Filed June 11, 1936. Serial No. 379,563. Published September 1, 1936. Class 4.

340,693. Deodorizer and Insect Repellent. Odora Co., Inc., New York. Filed July 14, 1936. Serial No. 381,002. Published September 8, 1936. Class 6.

340,703. Soap. Procter & Gamble Co., Cincinnati. Filed July 8, 1936. Serial No. 380,793. Published September 1, 1936. Class 4.

340,790. Soap and Shaving Cream. Mediskin Co., St. Louis. Filed July 25, 1936. Serial No. 381,442. Published September 15, 1936. Class 4.

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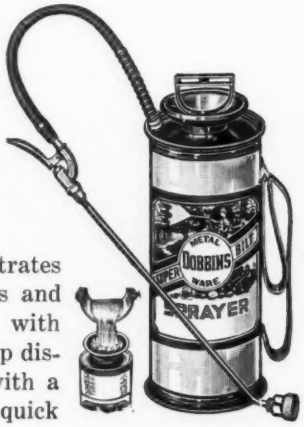

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Raw Material Markets

(As of November 27, 1936)

NEW YORK—With the uncertainty surrounding the results of the election removed, and with reports of generally improved business conditions, the soap raw materials market on the whole displayed a firm tone this period, with inquiry good and prices advancing. A feeling of optimism was noted in the oil and fat market at the close of this period, but there has been no outstanding development in recent weeks. Rising tallow prices were regarded with keen interest. Essential oils were very strong. Italian oils, particularly, were in the limelight with the unusually high prices the result of higher replacement costs. Advances in California lemon and orange oils were speculated upon. Further price developments in Spanish oils did not take place, although their positions were maintained. The glycerine market is becoming more alarming, with further advances in all grades noted. Rosin prices also increased—$1.00 or more.

OILS AND FATS

Coconut Oil

The tone in the coconut oil market was firm throughout most of this period, in keeping with the scarcity of offerings. It was predicted that this scarcity would continue into the latter part of the first quarter of 1937. In the London market, copra prices reached new all-time highs. The marine strike on the Pacific coast tied up the market there quite completely.

Olive Oil

Although there was practically no change in quotations, the olive oil foots market maintained a steady tone through the past few weeks, demand at closing being increasingly active. Factory and warehouse stocks of foots, as of Sept. 30, were reported to be 7,020,123 lbs. Consumption of foots during the September quarter was placed at 6,789,327 pounds and imports at 5,526,266 pounds. Quotations on denatured oil continued largely nominal, with spot supplies small.

Palm Oil

Inquiry for palm oil was more active this period, in company with strengthening developments in other oils. Quotations remained about the same. Factory and warehouse stocks of palm oil in the U. S. as of Sept. 30 were 84,863,673 lbs.; of palm kernel oil, 2,269,448 lbs.

Tallow

Tallow offerings were light on spot and with buying interest broadening, the market continued strong. At closing, N. Y. City extra had advanced to a basis of 7¾c delivered. Prices on the N. Y. Produce Exchange Futures Market reached new levels since the establishment of the market in the middle of 1935. The tallow situation is being regarded with considerable interest in view of the fact that stocks in 1936 have fallen sharply, and production and imports have stayed dangerously below consumption.

Grease

Grease quotations all registered an increase over last month's closing prices of between ½c and 1c. Offerings were light, however, and prices were largely nominal. At closing, choice white grease was quoted at 7¾ to 8¾c, yellow, at 7½ to 7¾ c, and house grease at 7⅜ to 7⅝ c. Statistics issued during this period reported factory and warehouse stocks as of Sept. 30 at 64,320,800 lbs.

PERFUMING MATERIALS

Anise Oil

The anise oil market was completely nominal this period. Extremely little oil has been coming from the primary market, and until such supplies are received no change in the situation can be expected.

Bergamot Oil

Bergamot oil quotations advanced to $2.80 to $3.25, with sales to the soap trade reported to be excellent in volume. Prices in the foreign market were higher. Increases in spot quotations were caused by the higher replacement values prevailing in Italy.

Geranium Oil

The only change in the geranium market was a 25c reduction in the finest grade of African oil, which went into effect towards the close of the period.

CHEMICALS

Naphthalene

Although there has been no change in quotations, interest in the naphthalene market was aroused by a recent report of the U. S. Tariff Commission to the effect that the German export embargo on naphthalene together with increased demand in domestic markets had resulted in greatly increased American production with prospects for increased prices in 1937. It is estimated that domestic production will amount to 70,000,000 lbs. in 1936 as compared with about 50,000,000 lbs. in 1935, and that the 1937 total will probably be around 100,000,000 lbs.

Glycerine

Glycerine prices showed another 2c rise all along the line this period, prices at closing standing at 21½ to 23c for C. P. and dynamite, 17½-18½c for saponification, and 16-17c for soap lye grades.

Rosin

Rosin markets continued firm this period, with new high records established for some grades. Demand was generally very good, the soap trade constituting a substantial part of it.

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(Note: When your reservation is made at the Miami Biltmore, your name is placed before the membership committee of the Florida Year-Round Clubs. Upon approval, you have membership privileges in these three magnificent sports establishments, during your sojourn at the hotel, without payment of initiation fees or dues.)

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GOLF TOURNAMENTS—A dozen big events this winter on the Biltmore course, including the famous Miami Biltmore $10,000 Open.

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AQUATIC SPORTS — Weekly water carnivals are held at Miami Biltmore pools. One of the resort season's favorite pasttimes. Olympic champions and other stars in competition and exhibition. Comfortable, protected spectator facilities for thousands.

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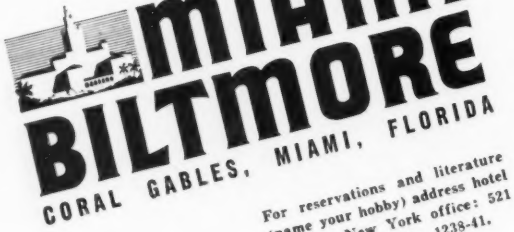
Nowhere in the resort world will you find such a complete schedule of things to do and to see .... such smart conveniences for enjoying your favorite hobby .... or such extraordinary privileges as are offered, *without extra charges*, in this "Center of the Wintertime World".



For reservations and literature (name your hobby) address hotel direct or New York office: 521 Fifth Avenue, Suite 1238-41.

Raw Material Prices

(As of November 27, 1936)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

Chemicals

Acetone, C. P., drums	lb.	$ .11	$ .12½
Acid, Boric, bbls., 99½%	ton	95.00	100.00
Cresylic, drums	gal.	.73	.75
Low boiling grade	gal.	.78	.80
Oxalic, bbls.	lb.	.11½	.12¼
Adeps Lanae, hydrous, bbls.	lb.	.16	.18
Anhydrous, bbls.	lb.	.17	.19
Alcohol, Ethyl, U. S. P., bbls.	gal.	4.14	4.19
Complete Denat., SD 1, drums, ex.	gal.	.32	.37
Alum. Potash lump	lb.	.03¼	.03½
Ammonia Water, 26°, drums, wks.	lb.	.02½	.02¾
Ammonium Carbonate, tech., bbls	lb.	.08	.12½
Bentonite 1	ton	—	16.00
Bentonite 2	ton	—	11.00
Bleaching Powder, drums	100 lb.	2.25	2.60
Borax, pd., cryst., bbls., kegs	ton	50.00	55.00
Carbon Tetrachloride, car lots	lb.	—	.05¼
Caustic, see Soda Caustic, Potash Caustic			
L. C. L.	lb.	.07	.08
China Clay, filler	ton	10.00	25.00
Cresol, U. S. P., drums	lb.	.10	.10½
Creosote Oil	gal.	.12½	.13½
Feldspar (200 to 325 mesh)	ton	14.00	15.00
Formaldehyde, bbls.	lb.	.05¾	.06¼
Fullers Earth	ton	15.00	24.00
Glycerine, C. P., drums	lb.	.21½	.23
Dynamite, drums	lb.	.21½	.23
Saponification, drums	lb.	.17½	.18½
Soap, lye, drums	lb.	.16	.17
Hexalin, drums	lb.	—	.30
Kieselguhr, bags	ton	—	35.00
Lanolin, see Adeps Lanae.			
Lime, live, bbls.	per bbl.	1.70	2.20
Mercury Bichloride, kegs	lb.	.71	.76
Naphthalene, ref. flakes, bbls.	lb.	.07¼	.07½
Nitrobenzene (Myrbane) drums	lb.	.09	.11
Paradichlorbenzene, bbls., kegs	lb.	.16	.25
Petrolatum, bbls. (as to color)	lb.	.02	.07¼
Phenol, (Carbolic Acid), drums	lb.	.14¼	.16
Pine Oil, bbls.	gal.	.59	.64
Potash, Caustic, drums	lb.	.06¼	.06½
Flake	lb.	.07	.07¼
Potassium Carbonate, solid	lb.	.07¼	.09½
Liquid	lb.	.03½	.03¾
Pumice Stone, powder	100 lb.	3.00	4.00
Rosins (600 lb. bbls. gross for net)—			
Grade B to H, basis 280 lbs.	bbl.	8.50	8.50
Grade K to N	bbl.	8.50	8.55
Grade WG and X	bbl.	8.65	9.25
Wood FF Spot	bbl.	7.97	9.00
Rotten Stone, pwd. bbls.	lb.	.02½	.04½
Silica	ton	20.00	27.00
Soap, Mottled	lb.	.04⅛	.04⅜
Olive Castile, bars	lb.	.26	.35
Olive Castile, powder	lb.	.28	.38
Powdered White, Neutral	lb.	.18½	.21½
Olive Oil Foot, bars, 68-70%	lb.	.09	.09½
Green, U. S. P.	lb.	.08	.09½
Tallow Chips, 88%	lb.	.09	.09½
Soda Ash, cont., wks., bags, bbls.	100 lb.	1.23	1.50
Car lots, in bulk	100 lb.	—	1.05
Soda Caustic, cont., wks., solid	100 lb.	—	$2.60
Flake	100 lb.	—	3.00
Liquid, tanks	100 lb.	—	2.25
Soda Sal., bbls.	100 lb.	1.10	1.30
Sodium Chloride (Salt)	ton	11.40	14.00
Sodium Fluoride, bbls.	lb.	.07¼	.08¾
Sodium Hydrosulphite, bbls.	lb.	.19	.20
Sodium Silicate, 40 deg., drum.	100 lb.	.80	1.20
Drums, 52 deg. wks.	100 lb.	1.35	1.75
Tar Acid Oils, 15-25%	gal.	.21	.24
Trisodium Phosphate, bags, bbls.	lb.	.03	.03½
Zinc Oxide, lead free	lb.	.06	.06¼
Zinc Stearate, bbls.	lb.	.20	.22

Oils — Fats — Greases

Babassu, tanks	lb.	—	.09¾
Castor, No. 1, bbls.	lb.	.10¾	.11½
No. 3, bbls.	lb.	.10¼	.11
Coconut			
Manila, tanks, N. Y., Jan.	lb.	.07	Nom.
Tank, Pacific coast	lb.	.06¾	Nom.
Cod, Newfoundland, bbls.	gal.	.48½	Nom.
Copra, bulk, coast	lb.	.0410	Nom.
Corn, tanks, mills	lb.	.09	Nom.
Cottonseed, crude, tanks, mill	lb.	.0862	.08¾
PSY, futures	lb.	.1005	.1035
Degras, Amer., bbls.	lb.	.07¼	.07¾
English, bbls.	lb.	.06½	.06¾
Neutral, bbls.	lb.	.11¾	.12¼
Greases, choice white bbls., N. Y.	lb.	.07¾	.08¾
Yellow	lb.	.07½	.07¾
House	lb.	.07⅜	.07⅝
Lard, City	lb.	.12¼	.12½
Compound tierces	lb.	.12	.12¼
Lard Oil,			
Extra, bbls.	lb.	—	.11
Extra, No. 1, bbls.	lb.	—	.10¼
No. 2, bbls.	lb.	—	.09¼
Linseed, raw, bbls.	lb.	.0920	.1000
Tanks, raw	lb.	.0860	.0900
Boiled, 5 bbls. lots	lb.	.1000	.1040
Menhaden, Crude, tanks, Balt.	gal.	.35	Nom.
Oleo Oil, No. 1, bbls., N. Y.	lb.	—	.1037½
No. 2, bbls., N. Y.	lb.	—	.0987½
Olive, denatured, bbls., N. Y.	gal.	1.25	Nom.
Foots, bbls., N. Y.	lb.	.09¼	.09⅜
Palm	lb.	.04½	.05¼
Palm Kernel, casks, denatured	lb.	—	.0545
Peanut, domestic tanks	lb.	.09	Nom.
Red Oil, distilled bbls.	lb.	.10⅛	.11⅝
Saponified bbls.	lb.	.10⅛	.11⅝
Tanks	lb.	—	.09¼
Soya Bean, domestic tanks, N. Y.	lb.	—	.0870
Stearic Acid,			
Double pressed	lb.	.11	.12
Triple pressed, bgs.	lb.	.13¾	.14¾
Stearine, oleo, bbls.	lb.	.09	.09½
Tallow, special, f.o.b. plant	lb.	—	.07½
City, ex. loose, f.o.b. plant	lb.	—	.07¾
Tallow oils, acidless, tanks, N. Y.	lb.	—	.0987½
Bbls., c/l N. Y.	lb.	—	.1037½
Whale, refined	lb.	.0750	.0770

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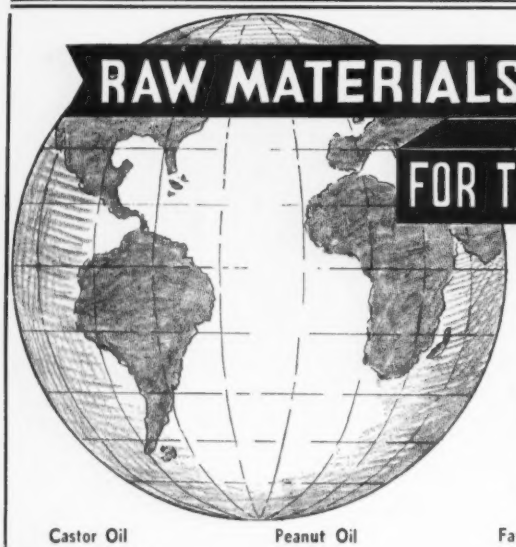

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Fatty Acids
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Oleo Stearine
Stearic Acid
White Olein
Tallow
Grease
Lanolin
Caustic Soda
Soda Ash
Caustic Potash
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"CEREPS" Superfatting Agent

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563 GREENWICH STREET, NEW YORK CITY
Established 1838

Essential Oils

Almond, Bitter, U. S. P.	lb.	$2.75	$3.00
Bitter, F. F. P. A.	lb.	3.00	3.25
Sweet, cans	lb.	.75	.80
Anise, cans, U. S. P.	lb.	.85	Nom.
Bay tins		1.30	1.50
Bergamot, coppers	lb.	2.80	3.25
Artificial	lb.	1.00	1.30
Birch Tar, rect. tins	lb.	.75	.80
Crude, tins	lb.	.14	.17
Bois de Rose, Brazilian	lb.	1.25	1.35
Cayenne	lb.	2.75	3.00
Cade, cans	lb.	.38	.52
Cajeput, native, tins	lb.	.45	.46
Calamus, tins	lb.	2.75	3.00
Camphor, Sassy, drums	lb.	13½	.14
White, drums	lb.	.14½	.15
Cananga, native, tins	lb.	2.25	2.30
Rectified, tins	lb.	3.00	3.35
Caraway Seed	lb.	2.00	2.25
Cassia, Redistilled, U. S. P.	lb.	.90	.95
Cedar Leaf, tins	lb.	.65	.70
Cedar Wood, light, drums	lb.	.18	.20
Citronella, Java, drums	lb.	.29	.30
Citronella Ceylon, drums	lb.	.22½	.23
Clove, U. S. P., tins	lb.	1.08	1.10
Eucalyptus, Austl., U. S. P., cans	lb.	.39	.42
Fennel, U. S. P., tins	lb.	1.05	1.10
Geranium, African, cans	lb.	4.50	6.25
Bourbon, tins	lb.	4.75	5.65
Hemlock, tins	lb.	1.05	1.10
Lavender, U. S. P., tins	lb.	2.55	7.25
Spike, Spanish, cans	lb.	1.05	1.40
Lemon, Ital., U. S. P.	lb.	No prices	
Lemongrass, native, cans	lb.	.55	.63
Linaloe, Mex., cases	lb.	1.15	1.20
Nutmeg, U. S. P., tins	lb.	1.10	1.15
Orange, Sweet W. Ind., tins	lb.	2.00	2.05
Italian cop	lb.	No prices	
Distilled	lb.	—	.90
Origanum, cans, tech	lb.	.90	1.25
Patchouli	lb.	5.00	6.00
Pennyroyal, dom.	lb.	1.65	1.75
Imported	lb.	1.60	1.85
Peppermint, nat., cans	lb.	2.20	2.45
Redis., U. S. P., cans	lb.	2.35	2.70
Petitgrain, S. A., tins	lb.	1.00	1.15
Pine Needle, Siberian	lb.	.85	.90
Rose, Natural	oz.	5.25	22.50
Artificial	oz.	2.00	3.00
Rosemary, U. S. P., tins	lb.	.43	.48
Tech., lb. tins	lb.	.37	.38
Sandalwood, E. Ind., U. S. P.	lb.	4.80	5.50
Sassafras, U. S. P.	lb.	.75	1.25
Artificial	lb.	.33	.35
Spearmint, U. S. P.	lb.	1.85	2.00
Thyme, red U. S. P.	lb.	.85	1.25
White, U. S. P.	lb.	.80	1.35
Vetivert, Bourbon	lb.	8.00	18.00
Ylang Ylang, Bourbon	lb.	3.50	6.00

Aromatic Chemicals

Acetophenone, C. P.	lb.	$1.25	$2.25
Amyl Cinnamic Aldehyde	lb.	1.55	2.00
Anethol	lb.	1.05	1.10
Benzaldehyde, tech.	lb.	.60	.65
U. S. P.	lb.	1.20	1.30
Benzyl, Acetate	lb.	.56	1.00
Alcohol	lb.	.65	1.15
Citral	lb.	2.00	2.30
Citronellal	lb.	1.25	1.50
Citronellol	lb.	1.90	2.15
Citronellyl Acetate	lb.	4.50	7.00
Coumarin	lb.	3.10	3.30
Cymene, drums	gal.	.90	1.25
Diphenyl oxide		.70	1.00
Eucalyptol, U. S. P.	lb.	.50	.55
Eugenol, U. S. P.	lb.	2.00	2.50
Geraniol, Domestic	lb.	.75	2.00
Imported	lb.	2.00	3.00
Geranyl Acetate	lb.	2.00	2.50
Heliotropin	lb.	2.00	2.10
Hydroxycitronellal	lb.	3.50	9.00
Indol, C. P.	oz.	2.00	2.50
Ionone	lb.	3.25	5.50
Iso-Eugenol	lb.	3.00	4.25
Linalool	lb.	1.65	2.25
Linalyl Acetate	lb.	1.50	3.25
Menthol	lb.	3.50	3.60
Methyl Acetophenone	lb.	2.50	3.00
Anthranilate	lb.	2.10	2.75
Paracresol	lb.	4.50	6.00
Salicylate, U. S. P.	lb.	.40	.45
Musk Ambrette	lb.	4.20	5.00
Ketone	lb.	4.35	5.25
Xylene	lb.	1.25	2.00
Phenylacetaldehyde	lb.	4.80	8.00
Phenylacetic Acid, 1 lb., bot.	lb.	2.50	3.25
Phenylethyl Alcohol, 1 lb. bot.	lb.	4.00	4.50
Rhodinol	lb.	5.75	8.00
Safrol	lb.	.54	.57
Terpineol, C. P., 1,000 lb. drs.	lb.	.23	.25
Cans	lb.	.27	.30
Terpinyl Acetate, 25 lb. cans	lb.	.80	.90
Thymol, U. S. P.	lb.	1.40	1.50
Vanillin, U. S. P.	lb.	3.75	4.00
Yara Yara	lb.	1.30	2.00

Insecticide Materials

Insect power, bbls.	lb.	.16	.18
Concentrated Extract			
5 to 1	gal.	1.25	1.30
20 to 1	gal.	4.10	4.30
30 to 1	gal.	6.15	6.45
Derris, powder—4%	lb.	.33	.38
Derris, powder—5%	lb.	.39	.44
Cube, powder—4%	lb.	.23	.28
Cube, powder—5%	lb.	.28	.33

Gums

Arabic, Amb. Sts.	lb.	.09¾	.10
White, powdered	lb.	.13	.14
Karaya, powdered No. 1	lb.	.09½	.10
Tragacanth, Aleppo, No. 1	lb.	2.25	2.50
Sorts	lb.	.30	.31

Waxes

Bees, white	lb.	.36	.38
African, bgs.	lb.	.25½	.26
Refined, yel.	lb.	.28	.30
Candelilla, bgs.	lb.	.16	.17
Carnauba, No. 1	lb.	.45	.45½
No. 2, N. C.	lb.	.36½	.37
No. 3, chalky	lb.	.34	.34½
Ceresin yellow	lb.	.36	.38
Paraffin, ref. 125-130	lb.	.04½	.04¾

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INDUSTRIAL CHEMICAL SALES COMPANY, INC.

PRODUCTION SECTION

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, *Oil & Fat Industries*.

Liquid Soap Manufacture

POTASH soap stock, the usual basis of liquid soaps, must be prepared with great care regardless of what modification or subsequent treatment it may be given. The current price of the fatty ingredients should not be the controlling factor in their choice, as quality is a more important consideration in making up the base soap. The choice of suitable fats is not very wide, being limited mostly to coconut oil, palm kernel oil, castor oil, stearin-free olein, olive oil, and peanut oil, —the amount of the last named being small in proportion to the total fat charge.

Drying or semi-drying oils are not suitable. For example, linseed oil has been used in liquid shampoo, but the practical experience of the author is that it decreases lathering power too much and also adheres to the hair even after thorough rinsing. Bleached soybean oil had an unfavorable influence on the perfume after long storage of the soap. Addition of varying proportions of potassium thiosulfate to counteract this, led to negative results. The reducing effect of the thiosulfate was quickly lost due to the great dilution of the chemical in the liquid soap, and its reaction with the carbon dioxide of the air and with other ingredients in the soap. Fats containing stearin or difficultly soluble soaps are unsuitable in shampoo liquids because they are hard to rinse out of the hair.

Viscosity of the soap depends on several factors. Coconut oil soap gives a thin liquid. One part of coconut oil and one part of olein soap gives a fairly viscous liquid. Castor oil lends body to the soap, but as much as 20 per cent will decrease lathering power. In spite of this latter effect, the use of some castor oil is advantageous because it tends to prevent coagulation of the soap. It tends to keep the other soaps well dispersed and therefore promotes transparency. Its action on the skin is very mild.

When saponifying, care should be taken to carry the process to completion. The best result is obtained by the half-boiled process. Most of the later difficulties can usually be attributed to the fact that saponification was not complete. The appearance of thicker layers at the surface of the liquid, and of turbidity even after filtration, may be largely due to improper completion of the saponification process.

Final correction of liquid soap must be made with great care, since it may have a tendency toward sharpness. Correction to 0.05 per cent has been found to give good results for the more sensitive as well as the less sensitive skins. If a shampoo is to be used on very oily hair, this neutral soap can be modified by the addition of ½ part of potash to 100 parts of prepared liquid soap. The presence of the alkaline salt will increase the detergent action in such cases. When adjusting, neutralization of excess alkali is best made with castor oil fatty acids or Turkey red oil. If the soap should be slightly acid through such additions, this only increases the colloidal properties of the soap and hence increases its detergent and lathering action. Since the detergency of soap depends largely on its emulsifying ability, addition of such emulsifying agents is especially advantageous. With the addition of 10 per cent of acid Turkey red oil to soap, the precipitation of calcium soap can be counteracted in a shampoo. Even when this addition was made to pure coconut oil soap, in no case was an irritating effect on the skin observed. The advantage of this emulsifying agent is especially marked with very concentrated liquid soaps, that is, those having a high content of fatty acids. The amount to be added naturally depends on the condition of use,—the hardness of the water, the fat ingredients present, the concentration of soap, etc. The presence of the sulfonated oil in a shampoo helps to prevent the dull appearance of the hair which may result from the incomplete removal of calcium soap.

The potash soap stock is diluted with the necessary amount of distilled water. The solution is

best kept overnight in a warm vessel. If a high soap concentration is desired, the addition of alcohol and glycerine may be necessary. The amount to be used is based on the following considerations: At no temperature should the solution gelatinize. Alcohol addition should not be stinted, since its effect in decreasing lathering power is quickly compensated for by the addition of further amounts of water during the washing process. Alcohol and glycerine both diminish the amount of lather because when soap is dissolved in these, it approaches a true solution, and only its colloidal solution possesses lathering power. Since in practice a large amount of water is always added to the shampoo, the soap again approaches the colloidal condition and assumes its colloidal properties.

Viscosity is usually considered a highly desirable property of liquid soap. The real way to increase viscosity without interfering with quality is to increase the fatty acid content. Sugar addition is possible with soaps to be used in hand dispensors. It is undesirable in shampoos as it detracts from the appearance of the hair when the latter dries. Large amounts of potash carbonate added to thicken the soap make it too sharp. Potassium chloride decreases lathering power and detracts from the quality on other grounds. The addition of a few per cent of terpineols has only a temporary effect. Choice of fats will of course affect viscosity. It might be well to mention that the viscosity of soap is no real criterion of quality, since a thin liquid may have a higher content of real soap than a thick liquid.

Liquid soaps are perfumed with 0.2 to 0.5 per cent of compositions soluble in soap to give a clear solution. Compositions which do not meet these requirements can usually be mixed with enough Turkey red oil to give a clear solution in the soap liquid. The maximum addition should be one part of Turkey red oil to one of perfume composition. More of the former might impair the odor of the perfume.

A liquid soap should always be cooled to at least 0°C. (32°F.) before being filtered, in order to precipitate any solid glycerides present which would be soluble at room temperature. If this is not done, turbidity is very apt to develop when room or storage temperatures are lowered. A soap which is turbid is usually considered dirty looking and has little sales appeal. A good liquid soap should be transparent, crystal-clear and have a good color, popularly golden yellow. Filtration is carried out with the usual filtering apparatus. The use of suitable absorbent material during filtration will give a particularly clear and bright filtrate, although it has the disadvantages of soap loss and more difficult cleaning of the filter cloth.

The following table offers a number of suggestions for liquid soaps which vary according to the purpose to which they are to be put.

	FAT CONTENT IN PER CENT												
Ingredients	10%	15%	15%	20%	20%	20%	25%	25%	25%	25%	25%	30%	35%
Coconut oil		10			10	10	15	25	15	20	13	15	27
Peanut oil	2				5				5		8	15	
Olein		5		20	5	10	5						
Olive oil							5						
Palm kernel oil	8		15										
Castor oil									5	5	4		8
Caustic potash	5.2 (50°)	14.5 (30°)	17.5 (25°)	8.8 (40°)	13 (38°)	10.5 (40°)	13 (40°)	13.75 (40°)	12 (38°)	12 (42°)	13 (40°)	18 (38°)	18 (38° Bé)
Alcohol			3	10	4	7	4.5	10	3	3	10	10	7
Potash	0.65	1	1	1.2	0.5	0.5	0.5	2.5	0.5	0.5		0.5	0.5
Potassium chloride	0.65	1	1					5		3.5		2	
Sugar	13	16.5	6.25					1.25				3	5.5
Glycerine			2.5	25	2.5	15	15	2.5	3.5		26		9
Water	70.5	52	53.75	35	60	47	42	40	56	56	26	36.5	25

Monsoin. *Seifen-, Öl- und Fett. Indstuie* **22,** 302-3 (1936).

Octadecylsulfate Shampoo

Detergent agents are produced from salts of sulfonic acids and of sulfuric, phosphoric and boric esters containing an aliphatic chain of more than 11 carbon atoms by extracting first with a hydrocarbon solvent to remove unattacked material and then with alcohol for the removal of inorganic salts. Bleaching agents or compounds that liberate CO_2 may be used with the purified products. For example, commercial sodium octadecyl-sulfate is extracted with petroleum ether and alcohol; when used for shampooing hair, cetyl or oleyl alcohol or palm-oil alcohols may be added. A mixture of purified octadecylsulfonate, octadecyl alcohol and ammonium bicarbonate is used for washing hair that has been pretreated with lemon juice. Ehrhart Franz. British Patent No. 448,350.

Cholesterol Detergents

Compounds soluble in water which may be used as detergents, particularly in the textile and leather industries, are salts of sulfuric esters of alcohols such as those obtained by condensing cholesterol, particularly cholesterol from suint, and alcohols containing 10-18 carbon atoms. Thus, cholesterol is esterified with boric acid and mixed with orthobroic ester of oleic alcohol at about 60° C. and the oil obtained is sulfonated with sulfuric acid. Ernst A. Mauersberger. French Patent No. 797,679.

New Textile Assistants

Many complex substances have been investigated within the last few years and found useful in the field of textile chemistry. Among these are 5-valent nitrogen compounds, usually termed quaternary ammonium compounds. For example, trimethyl cetyl ammonium bromide has the simple formula of a nitrogen atom to which three CH_3 groups, a $C_{16}H_{33}$ group, and a bromide atom are attached.

Four-valent sulfur and 5-valent phosphorus also form the basis of useful compounds. For example, dipropyl lauryl sulfonium bromide has attached to a sulfur atom two C_3H_8 groups, one $C_{12}H_{25}$ group, and a bromide atom. Trimethyl octyl phosphonium hydroxide has attached to a phosphorus atom three CH_3 groups, one C_8H_{17} group and one OH radical. A. J. Hall. *Am. Dyestuff Reporter* **25,** 561-5 (1936).

Rapid Saponification

The ethyl alcohol in alcoholic potash solutions is replaced by ethylene glycol monoethyl ether, this latter being termed the "solvent." The chief objects of this substitution are to raise the temperature of saponification (the solvent boils at 134° C.), to form a complete solution of sample in reagent and so to accelerate the reaction. It has been found that the solvent is readily rectified by leaving it overnight with a little solid sodium hydroxide and then redistilling. Potassium hydroxide is readily soluble in the solvent.—perhaps more so than in ethyl alcohol, and a pale solution results. This solution becomes very little discolored when kept.

Using a 0.5 *N* solution, saponification of fatty matter at the boiling point is almost instantaneous. Even with compounded mineral oils, wool fat and carnauba wax, saponification is complete in 15 minutes and the titration end-point is exceedingly sharp. Not all compounded oils go into complete solution in the reagent, but saponification is nevertheless complete in 15 minutes. The results obtained with pure fatty oils are identical with those obtained with alcoholic potash as the reagent. The solvent is expensive but only a small amount is needed for a test. W. R. Street. *Analyst* **61,** 687 (1936).

Fatty Acid Distillation

The Wecker method is a continuous distillation process in which finely divided moist steam is brought into intimate contact, under a vacuum of 15-25 mm. of mercury, with relatively small amounts of the feed material heated to 240-270° C. The water particles in the moist steam vaporize explosively on contact with the hot feed and thereby rapidly vaporize the volatizable portions of the latter. The process is said to decrease losses due to pitch formation and to be applicable to mixtures of fat with fatty acid containing relatively small amounts of the latter. The severe corrosion difficulties encountered are also discussed. E. M. Schonberger. *Fette u. Seifen* **43,** 109-12 (1936).

Refined Tall Oil

On the average, crude tall oil (tall oil or tallol is a fatty acid by-product of paper manufacture.—Ed.) consists of 88 per cent saponifiable matter and 12 per cent inert constituents of more or less unknown composition. The saponifiable portion of the tall oil consists ordinarily of 50 per cent rosin acids and 50 per cent fatty acids of the oleic and linoleic series. This classifies tall oil as a useful material for soap making, but it has two objectionable characteristics in the crude state,—namely, a dark color and a disagreeable odor.

A method of purification in which tall oil is treated with gasoline and furfural gives a light yellow to light brown oil. This is suitable for incorporation into soap stock without decoloration. It also forms milky white emulsions. Malodorous substances are removed during the treatment. The refined tall oil has a mild, agreeable odor of fatty acids and rosin. Ralph H. Mckee and Helmer L. Blengsli. *Paper Trade J.* **103,** No. 14, 33-4 (1936).

Soap Sweating

When an unduly large percentage of free alkali, for example, is present in soap, rancidity may develop. Soap is a colloidal system in which fatty acids, water and such electrolytes as salt, caustic soda, and soda ash, are present at a definite pressure and temperature. If the electrolyte content of the system is not kept down to a level corresponding to the prevailing conditions of room temperature and pressure, the system will not retain its homogeneity.

Migration of electrolytes will occur or water will be liberated, which will travel by capillary attraction to the surface of the soap. In so doing it carries with it the readily soluble soaps of unsaturated fatty acids, as well as unsaponified fat. An excess of alkali or other electrolytes thus gives rise to soap sweating. Since the fats carried to the surface are readily oxidized, rancidity inevitably develops at the sweating areas, and spreads through the whole mass. The sweating of soaps is thus not a symptom of rancidity, but inevitably leads to spoilage and in most cases to rancidity. These remarks also explain why a salt content exceeding 0.5 per cent endangers the stability of soap. Very great care is therefore necessary during the salting out process. J. Davidsohn and A. Davidsohn. *Soap, Perfumery & Cosmetics* **1936,** 704-5.

Unsaponified Fat in Curd Soap

To determine the amount of unsaponified fat in curd soap, isolate the fatty acids and neutralize, that is, determine the neutralization value. The soap solution is made up in 50 per cent alcohol and extracted several times with petroleum ether. The petroleum ether extracts are united, washed with neutral 50 per cent alcohol and dried with calcined Glauber's salt (sodium sulfate). The petroleum ether is distilled off and the residue dried to constant weight and calculated to per cent of the weighed sample. *Seifensieder-Ztg.* **63,** 859 (1936).

Products and Processes

Powdered Shampoo

This type of product can be made by a simple mixing of ingredients. The most popular perfumes appear to be the lavender, cologne, or fougere type, although this is probably the result of what has gone before, and there is no reason why experiments with more modern perfumes might not show a favorable response. A fairly simple formula is as follows (by weight):

	Parts
Powdered coconut oil soap	300
Powdered palm oil soap	300
Bicarbonate of soda	400
Lavender oil	1.5
Powdered coumarin	1
Vertivert	1
Powdered musk ambrette	0.5
Benzophenone	0.5

The use of mild alkalies increases the bulk at low cost and improves the detergent and lathering properties of the mixture.

The inclusion of sodium hexametaphosphate to prevent insoluble soap formation in hard water is highly questionable in a shampoo product. The reason for this is that the problem is not so much to prevent precipitation of curd when the soap is dissolved in the water, as when the head is rinsed with water. Would the incorporation of a little metaphosphate with the shampoo ensure an amount of this chemical on the scalp at the time of rinsing with a large volume of hard water, sufficient to prevent the formation of curd? It seems exceedingly doubtful. M. Lovat Hewitt. *Perfumery & Essential Oil Rec.* **27,** 389-92 (1936).

Antioxidants

Several water-soluble substances serve to inhibit the oxidation of edible fats such as lard. These antioxidants still inhibit oxidation when the water content of the fat is as low as 0.25 per cent. Copper in aqueous solution accelerates oxidation and is about 20 times as active as iron. The pro-oxidant effect of copper at low concentrations, up to about 1 p.p.m. under the conditions employed, is completely inhibited by protein, cyanide and other antioxidants. At higher concentrations of the metal, even 4 per cent of protein fails to prevent a powerful acceleration of oxidation. Polybasic hydroxy-acids such as tartaric and citric acids are powerful antioxidants. Orthophosphoric acid is a fairly good, and pyrophosphoric acid a very good antioxidant. Phosphorous acid is also effective. Aliphatic amino acids such as glycine, aspartic and glutamic acids, and asparagine, are all powerful antioxidants. Colin H. Lea. *J. Soc. Chem. Ind.* **55,** 293-302T (1936).

Hair Wash

A composition of good lathering properties is composed of a mixture of fatty esters of hydroxy sulfonic acids of acidyl derivatives of aminosulfonic acids and sulfuric esters of fats or oils. Thus, a composition may contain the oleic ester of isethionic acid 40, Turkey-red oil 50, glycerol 15 and water 100 parts; or a 40 per cent aqueous solution of the sulfuric ester of hydroxystearic acid 40, the acyl derivative of taurine 35, glycerine 1, saponin 0.5, sugar 15 and water 100 parts. Chemische Fabrik Stockhausen & Cie. French Patent No. 797,685.

Triethanolamine Dry-Cleaning Soaps

On mixing 140 parts of triethanolamine with 282 parts of oleic acid and stirring for a short time, a soap, triethanolamine oleate, is formed by direct addition to the nitrogen atom, without liberation of water. This soap is stable and a true organic soap freely soluble not only in water and alcohol, but in petroleum spirit, chlorinated solvents and mineral oils, without the customary and necessary considerable excess of free fatty acids in naphtha soap. A relatively large amount of water can be held in the dry-cleaning fluid, which is known to promote detergent action. With a high soap addition to the solvent, this combines to reduce the tedious and expensive process of "spotting". The system produced is low in viscosity and maintains filters without clogging for long periods. Against these advantages must be weighed the high initial cost of triethanolamine soaps. *Chemical Age* **35,** 360, (1936).

Washing Compound

Products having washing and emulsifying properties are obtained by the reaction of primary or secondary amines with poly-carboxylic acids, provision being made that the products formed contain at least one free or merely neutralized COOH group. I. G. Farbenindustrie A.-G. British Patent No. 449,081.

Softening Agents for Rayon

Quaternary ammonium compounds useful as softening agents for artificial threads may be prepared by treating a triethanolamine-stearic acid soap in water with ethylene oxide. This product is useful as a foaming agent and may be converted into tetraethanolammonium hydroxide by treatment with caustic soda solution. I. G. Farbenindustrie A.-G. British Patent No. 448,251.

Cetyl Alcohol in Soap

Chemically pure cetyl alcohol, $C_{16}H_{33}OH$, is a white, wax-like solid having the following characteristics:

Melting point	48-49° C.
Acid value	nil
Ester value	nil
Acetyl value	197
Iodine value	nil

It is insoluble in water, soluble in alcohol, oils and most organic solvents, and is odorless and tasteless. The best commercial samples are those which approximate most closely to these standards.

Cetyl alcohol is entirely neu-

tral and not at all reactive. It functions primarily as a weak water-in-oil emulsifier. It is an excellent wetting agent and a proportion of two per cent is recommended as increasing the wetting and lubricating powers of brushless shaving creams. This is stated to give increased life to the razor blade and a closer shave. A small proportion of cetyl alcohol has been used in high grade toilet soaps to give surface smoothness, brilliance and unctuous consistency. Its freedom from color and odor and from any tendency to become rancid, are obvious advantages in soap work. Frank Atkins. *Manufacturing Perfumer.* **1,** 7-9 (1936).

◆

Detergent Esters

Compounds containing 10 or more carbon atoms are made by condensing an aliphatic aldehyde carrying at least 4 carbon atoms with a ketone in the presence of an alkali, removing the elements of water and obtaining an unsaturated ketone. These may be reduced to the corresponding saturated ketones or the corresponding secondary alcohols, both of which are useful as solvents, and the alcohols may be converted to their sulfate esters which may be used as detergents. Carbide & Carbon Chemicals Corp. French Patent No. 799,037.

◆

Lamepons in Shaving Cream

Lamepons are formed by the condensation of albumin or its decomposition products, with higher fatty acids. They are said to be excellent additions to all kinds of shaving creams and shaving soap because of their property of giving a thick soft lather which is very slow to dry. Augustin. *Deutsche Perfumerie-Ztg.* **22,** 231 (1936).

◆

Improving Dry Cleaning Soaps

The detergent properties of dry-cleaning preparations and of ordinary soaps seem to be enhanced in some cases by the addition of phosphatides. Such advantages are especially apparent in super-fatted soaps. Earl B. Working. *Oil & Soap* **13,** 261-3 (1936).

Antioxidant Concentrates

The unsaponifiable lipide fractions of many vegetables and vegetable oils contain compounds which are active antioxidants to lard and which are here named "inhibitols." The inhibitols from wheat germ and cottonseed oils may be concentrated by processes of crystallization and distillation similar to those used for obtaining vitamin E concentrates from which the inhibitols have not been separated. The preparation of inhibitol concentrates from palm oil is aided by the destruction by hydrogenation of the accompanying pro-oxygenic carotenoids. Inhibitol concentrates are transparent oils which have resisted crystallization. They are destroyed by reagents which attack a hydroxyl group or saturate a double bond. Inactive esters can be hydrolyzed to regenerate the activity. They are resistant to hydrogenation. Chloride or bromide addition products can be reactivated with zinc and hydrochloric acid.

The concentrates have a strong absorption band at 2940 A. roughly proportional to their activity. The concentrates have been assayed by an oxygen absorption method. They are shown to be much more effective antioxidants in lard than any edible compounds which have been suggested for use as commercial antixodants. The inhibitols protect purified fatty acids and esters but do not protect the vegetable oils from which they are obtained. The concentrates contain 81.6-82.5 per cent of carbon, 11.1-11.7 per cent of hydrogen, have a molecular weight of 279-379, an iodine number from 90-170 and n^{20} 1.5090-1.5254. H. S. Olcott and H. A. Mattill. *J. Am. Chem. Soc.* **58,** 1627-30 (1936).

◆

Substitutes for Aliphatic Alcohols

Hydrogenated hydroxy compounds which contain aromatic radicals united by carbon bonds, or their derivatives, are used as substitutes for aliphatic alcohols and their related products. Thus, perhydrogenated *para*-benzylphenols such as *alpha*-naphthylmethyl cresol and *gamma*-phenylpropyl cresol are used in making soaps, etc. Henkel & Cie. G.m.b.H. French Patent No. 798,263.

◆

Paste Soap

A transparent yellow to brown paste soap can be made with 100 parts by weight of soybean oil, 40 parts of caustic potash, (50° Be.), 6-6½ parts of potash, 70-80 parts of water and about 20-30 parts of potassium chloride solution (10-12° Be.). *Seifensieder-Ztg.* **63,** 860 (1936).

◆

New Detergent Compound

Development of a new compound which is said to have excellent detergent action combined with the ability to form stable emulsions of water and oils, is announced by Nuodex Products, Inc., Elizabeth, N. J. This material is a neutral free-flowing liquid with a solids content of 85 per cent. *Textile World* **86,** 2134 (1936).

◆

Alkalies for Bottle Washing

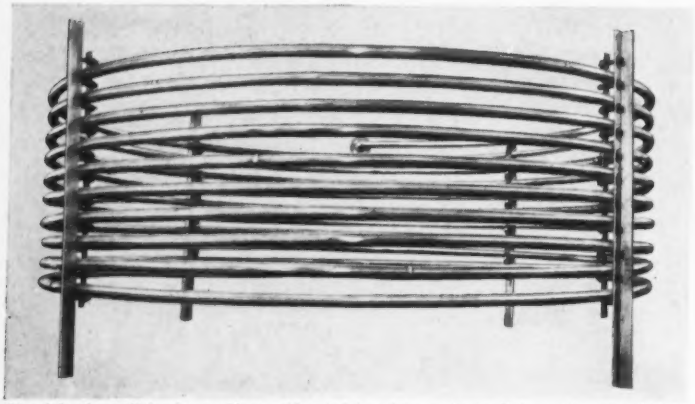
For soak tanks, 1-2 per cent of caustic soda solution is the most economical, but for soaker washers, 1 part of sodium metaphosphate, sodium metasilicate, soda ash or trisodium phosphate to 4 parts of caustic soda is advisable. The caustic soda-metasilicate combination gives a more brilliant bottle and is further enhanced by small additions of metaphosphate. The sludge formed by trisodium phosphate is objectionable. L. R. Bryant. *Canadian Dairy & Ice Cream J.* **15,** No. 3, 20-2; No. 4, 24-6 (1936).

◆

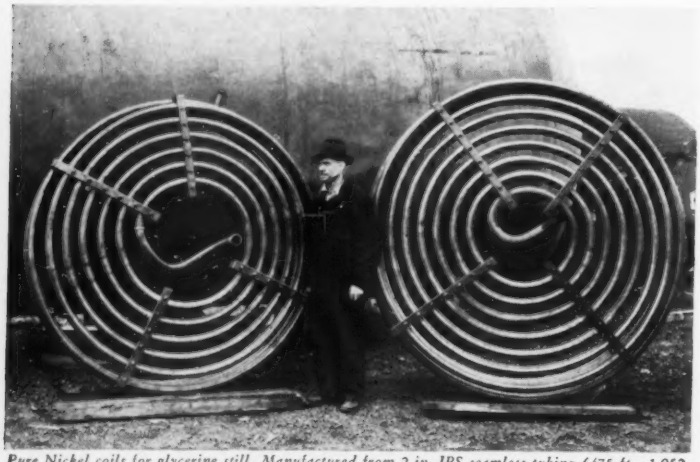
Siberian Almond Oil

Attention is called to a dwarf almond plant profusely growing wild in Siberia. The bush bears an abundant crop of nuts containing about 50 per cent of fatty oil. The properties of the oil are between those of sweet and bitter almond oil. N. Bolduirev, Sr. and N. Bolduirev, Jr. *Masloboino Zhirovoe Delo* **12,** 310-11 (1936).

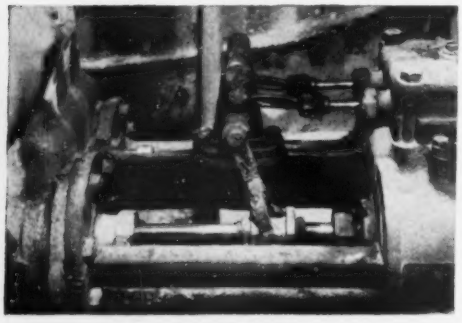
Don't let CORROSION *thrive in YOUR PLANT!*



Monel heating coil for fatty acid saponifier. Fabricated from 1¼ in. IPS seamless Monel pipe, 288 lin. ft. Coil is 3 ft. 6 in. high, has 10 turns and measures 9 ft. in diameter. All tube connections are welded. Made by Cornell & Underhill, 1300 Jefferson Street, Hoboken, to design by Allen Porter Lee Inc., Chemical Engineers, 156 Liberty Street, New York, N. Y.



Pure Nickel coils for glycerine still. Manufactured from 2 in. IPS seamless tubing (475 ft.—1,952 lbs.) by Midwest Piping & Supply Co., Inc., St. Louis, Mo., for Hamler Boiler & Tank Works, Chicago, for installation in a large Middle Western soap plant.



(Right) Monel headers, return bends and tubes furnished by the Babcock & Wilcox Company, 85 Liberty Street, New York, N. Y.

• • •

(Left) Monel pump rod after 3 years' continuous service handling hot fatty acids.

Put Nickel and Monel on the job of keeping glycerine and fatty acid products clean . . .

CORROSION—a hard bug to shake off in equipment that touches dilute sulfuric acid and strong caustic. But a bug you HAVE to shake off if you're going to keep your products pure.

That's why the four installations represented here are Nickel or Monel*. Both resist corrosion. In addition they have what's needed to get them into coils, saponifiers, pipe lines, and pump rods: They are readily fabricated . . . threaded, brazed or welded. No heat treatment required after welding.

Strength and toughness greater than structural steel, high heat transfer properties. . . . More reasons why smart plant operators cut costs with Monel and Nickel.

Most pipe bending plants fabricate Nickel and Monel. Or write us for instructions on fabrication. Address:

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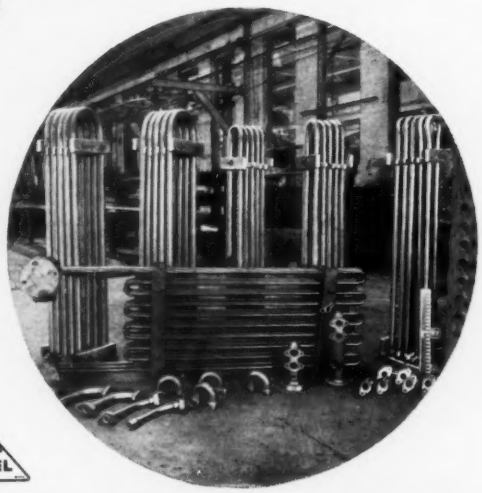


MONEL

*Monel is a registered trade-mark applied to an alloy containing approximately two-thirds Nickel and one-third copper. This alloy is mined, smelted, refined, rolled, and marketed solely by International Nickel.

Bichromates in Shave Soap

In the manufacture of a shaving preparation dichromates are intimately mixed with the preparation, in an amount sufficient to render passive the steel of the razor blade used. The purpose of this is to prolong the useful life of the razor blade. Ralph H. Fash. Canadian Patent No. 361,341.

Refining Dark Oils

The difficulties of hydrogenating "dark" oils were entirely eliminated in laboratory and factory production by new methods of refining. A mixture of 7.5 t. of dark linseed oil at 70° C. was stirred with 100 liters of 5 per cent sulfuric acid for about 1 hour. After settling and withdrawing the sediment, the oil was treated first with 12° Be. and then with 8° Be. caustic soda solution, washed, dried, reworked with 0.5 per cent kieselguhr and filtered. The oil was hydrogenated, giving fat mixtures melting at 59.4-60.5° C. Rapeseed oil of acidity 2.3 per cent and, iodine number 107, refined with sulfuric acid as above, gave fat mixtures melting at 38.3-46.4° C. Since the treatment of rapeseed oil with caustic soda gave a fine, difficultly settling soapstock, the hydration was modified with equally good results, by using water in place of dilute sulfuric acid. The oil at 35-50° C. was stirred with 3 per cent of water for 40-50 minutes and then treated as above. I. Zubov. *Maslo-boino Zhirovoe Delo* **12,** 248-9 (1936).

Comparative Acetyl Values

A comparative study of the Andre-Cook, the Roberts-Schuette and the West-Hoagland-Curtis methods for the determination of the hydroxyl number and acetyl value of fats and oils shows the following results with normal and abnormal samples of a mixture of castor and cottonseed oils: The first method shows poor agreement with normal samples, is inaccurate on samples containing volatile soluble or insoluble fatty acids, and involves the most steps, time and materials of the three methods. The second method gives suitable duplicate checks with individuals and individual analysts check with each other; the blank titration corrects for volatile soluble and insoluble fatty acids. This appears to be the simplest and most rapid of the three methods. The third method gives duplicate checks but individual analysts do not check with one another. Willard L. Roberts. *J. Assoc. Official Agr. Chem.* **19,** 420-7 (1936).

Viscosity of Resin-soap Solutions

The viscosity of aqueous alkali-resin soaps increases greatly with increasing concentration of resin. This behavior is not shown by shellac soaps. Shellac is peptized by aqueous borax. Resin is not peptized unless a hydroxy-fatty acid is also present. Although glycerine raises the viscosity of fatty-acid soap solutions, it lowers that of resin soap solutions. Johannes Scheiber and Rudolf Sandig. *Kolloid-Z.* **74,** 343-53 (1936).

Olive Soaps in Storage

Olive oil soapstock was found to increase greatly in its free fatty acid content when stored for several months. This was probably due to the presence of impurities which promote fermentation and catalyze the splitting of neutral fat. The change in samples stored for six months showed an increase in free fatty acid content of 26 per cent, calculated on the total fat content. F. Wittka. *Seifensieder-Ztg.* **63,** 796 (1936).

Acid Buffer for Cleansers

In washing animal and vegetable fibers, neutral salts or salts of weak acids or even certain weak acids are added as buffering agents to the cleansing agents to prevent liberation of free alkali ions. Examples of salts are alkali metal sulfates, acetates and mono- or pyrophosphates. Marcel David and Louis Martin-Gilies. French Patent No. 798,212.

Device for Lather Study

Owing to the essentially unstable character of lather its rate of decomposition is its most characteristic property. An apparatus is described with whose aid it is possible to force a measured amount of air under a definite pressure at a predetermined rate through a sintered glass plate into a 25-cc. sample of soap solution. The amount of lather so produced and its volume decrease with time can be readily observed and the characteristic rate of lather decomposition calculated. E. L. Lederer. *Seifensieder-Ztg.* **63,** 331-2 (1936).

Alkali in Shoe Polish

For emulsifying waxes in the preparation of shoe dressing, the amount of potash should be computed on the basis of the acid number of the stock. Excess alkali, which would injure leather, is thus avoided. Karl S. Nitsche. *Ole, Fette, Wachse, Seife, Kosmetik* **1936,** No. 8, 1-4.

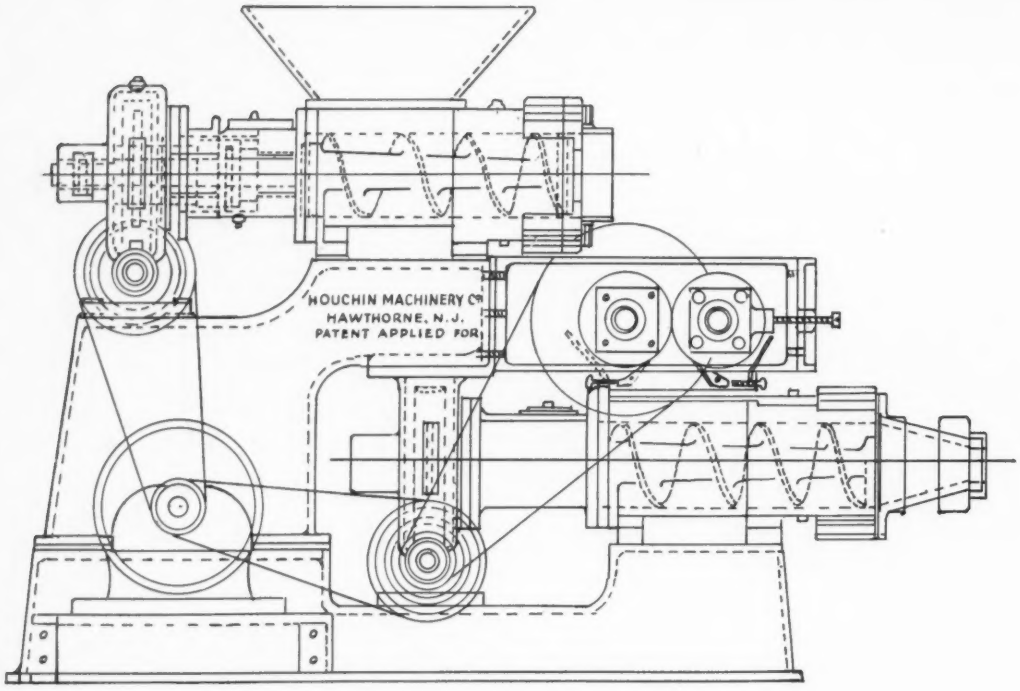
The amount of potash recommended by Nitsche is inadequate to give a homogeneous product of good consistency. The saponification number should be the basis for calculating potash. C. Lüdecke. Ibid. No. 11, 1-5.

The method of calculating potash in shoe polish according to Nitsche does not allow for sufficient potash to obtain an optimum consistency. On the other hand, basing the amount of potash on the saponification number according to Lüdecke, is not founded on a sound chemical basis, because potash does not saponify wax esters. The use of potash in excess of that required for neutralizing the free fatty acids is acknowledged, because the excess has a colloidal function, which affects the consistency. Leo Ivánovszky. Ibid. No. 11, 6-8.

Silver Cleaner

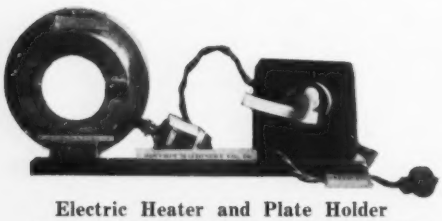
A composition for cleaning silver consists of a paste made from glycerine and sodium bicarbonate. Jean M. Schneider. French Patent No. 798,532.

HOUCHIN MACHINERY CO., INC. HAWTHORNE, N. J.

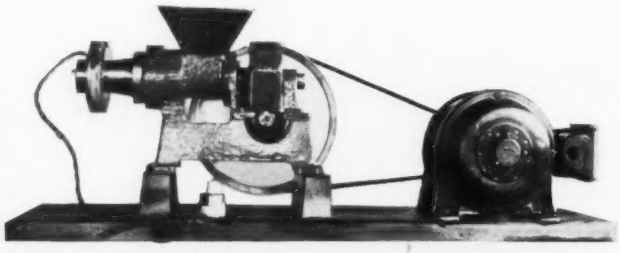


COMBINATION PLODDERS
With Double Head and Milling Attachment With Motor

Soap passing through the first time produces ribbons of soap. Second passing produces a fine finished, well compressed bar of Soap. For the second passing, remove Short Head on Second Plodder, bring Long Finishing Head in place. This Head is fitted with our Electric Heater and Plate Holder. A small stream of water passing through Plodder Cylinders and Rolls of Mill keeps the Soap cool, preventing the Soap from blistering. There is no dropping of Soap. The machine is very easily cleaned. It is excellent for short runs of Soap and saves Horse-Power.



Electric Heater and Plate Holder
By using this unit instead of steam, gas or lamp a uniform heat can be maintained. No more blistered soap. Made to fit all Plodders.



Laboratory Plodder, complete with Motor, Electric Heater, and Plate Holder.

New Equipment

IF YOU want additional information on any of the items described below or if you want any of the bulletins, catalogs, etc., write to the MacNair-Dorland Co., Inc., 254 West 31st St., New York, mentioning the number of the item.

294—New Style Mixers

Mixing Equipment Co., Rochester, N. Y., has announced a new line of portable mixers which are equipped with totally enclosed air jacketed motors. The advantage of the new mixers is that they can be used over steaming kettles, jacketed tanks and other receptacles which throw off steam or acid fumes. A steady stream of air through the motor from above keeps the steam or fumes away from the motor parts and also maintains proper motor temperature.

296—Oil Mill Catalog

Buckeye Iron & Brass Works, Dayton, Ohio, has issued a new catalog showing a complete line of oil mill equipment, including crushing rolls, copra and linseed oil cookers, hydraulic presses, pumps, etc. Copies will be mailed on request.

297—New Resistant Paint

Paper Makers Chemical Department of Hercules Powder Co., Kalamazoo, Mich., has announced development of a new highly resistant paint which it calls "Tornalac." The new product is a corrosion resistant coating made from a Tornesit base. "Tornalac" is unaffected by caustic solutions, acid solutions, salt solutions, chlorine, etc. It may be applied to metal, wood, and concrete and is sufficiently flexible to withstand normal vibrations and wear. It is of special merit for the protection of industrial equipment against the corrosive influences of acids and alkaline solutions. Available in gray, red, black, cream, white, and aluminum.

298—Glue Selector

National Adhesives Corp., New York, has recently distributed a handy rotating disc type device for the selection of the proper glue for various bottle labeling purposes. Fifteen different glue-using operations are listed, each being subdivided according to the method by which the glue is applied—fully- and semi-automatic machines, label pasting machines, and hand work. When the revolving pointer is turned to the desired operation, the numbers of the recommended glues appear in die-cut apertures. The "Mikah-Meter" is available thru SOAP or any of the Company offices.

Publications

299—Insecticide Booklet

J. L. Hopkins & Co., New York, have recently issued a 30-page booklet giving full details about the complete line of Hopkins insecticides, including pyrethrum powder, concentrates, combination insecticides, plant sprays, squill, hellebore, animal shampoos, roach and ant powders, etc. Copies will be sent on request.

295—Slip Hazard Study

Franklin Research Co., Philadelphia, in conjunction with General Testing Laboratories, Detroit, has prepared a study of the "Slip Hazard" as it pertains to different floor finishes. This paper together with a legal opinion, which has been compiled by a very prominent Philadelphia legal authority, is available on request.

300—Turbine Pumps

Root-Connersville Blower Corp., Connersville, Ind., has just issued Bulletin 260-B11B descriptive of its line of Type "T" turbine pumps.

Sodium Thiosulfate in Soap

From 0.2 to 0.25 per cent of sodium thiosulfate may be stirred into soap in the form of a concentrated solution to hinder or prevent the soap from becoming rancid. *Seifensieder-Ztg.* **63,** 820 (1936).

Treatment of Glycerine Waters

To reduce the content of non-volatile matter in glycerine waters, the latter are treated with 2 per cent ferrous sulfate at about 100° C. and then stirred by means of compressed air with lime water until the reaction is alkaline. Equally good results may be obtained with the use of siderite and magnetite. Z. Askinazi and E. Tobler. *Masloboino Zhirovoe Delo* **12,** 301-3 (1936).

Rapid Method for Fatty Acids

Decompose a suitable sample of soap (5 grams if the soap contains clay), with 10 cc. of 1:5 hydrochloric acid and let cool. Filter through a wet filter paper and transfer the filter into the beaker used for the decomposition. Stir it with 20-5 cc. of ether until the fatty acids are dissolved. Transfer the solution into a weighed flask, rinse the beaker with ether, and evaporate the united ether portions. Dry the residue at 110-115° C. to constant weight (10-15 minutes). The method also gives accurate results in the determination of the total amount of oil in soap stock. A. Koennova. *Masloboino Zhirovoe Delo* **12,** 253-4 (1936).

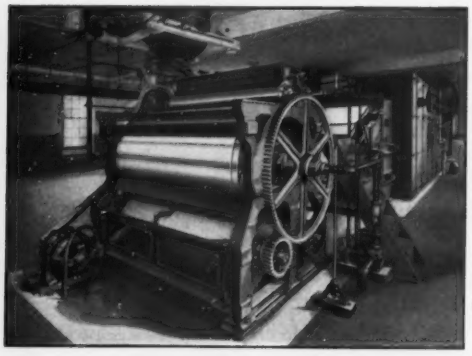
Iodine-Refractive Index

The Wijs iodine number of freshly prepared, cold pressed flaxseed oil may be estimated from a determination of the refractive index, with an accuracy of about 1 per cent. A conversion curve shows the correlation between the two values. Lawrence Zeleny and D. A. Coleman. *Oil & Soap* **13,** 253-6 (1936).

Witco Activated Carbon

Wishnick-Tumpeer, Inc., New York, have recently announced the addition of activated carbon to their line.

PRODUCING THE PERFECT CHIP FOR ALL SOAP MAKING NEEDS



● New Type Proctor Chip Soap System producing extremely thin chips of textile soap in new plant of Original Bradford Soap Co., River Point, R. I.

● The New Proctor Chip Soap System produces the thinnest of chips . . . chips perfectly formed in long ribbons, evenly thin from edge to edge, uniformly dried free from hard overdried particles or underdried spots. These chips make cleaner, whiter, quicker-dissolving laundry flakes. They make smooth-surfaced, clear-colored toilet cakes. They give quicker, better milling and plodding. They give quicker, easier grinding into powdered soaps . . . with less loss in dust. New high speed chilling roll . . . spray-cooled, pump-drained, precision-ground, smooth-surfaced. New drying machine . . . with revolutionary improvements in principal details of design . . . more efficient, more economical, cleaner in operation. Write for your copy of our new descriptive Bulletin No. 72.

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No. 2,056,272, Detergent, Patented October 6, 1936 by Karl Hennig, Rosslau/Anhalt, Germany, assignor to Deutsche Hydrierwerks Aktiengesellschaft, Berlin - Charlottenburg, Germany. A process for producing wetting, detergent and emulsifying agents which comprises sulfonating at about 0°C. a mixture of normal primary alcohols which solidify below 0°C. and have more than 8 carbon atoms in the molecule, the iodine number of the alcohols being at least about 100.

No. 2,056,438, Extraction of Toxins from Roots for Insecticides, Patented October 6, 1936 by Harold Greig Ward, Wallasey, England. The process for extracting toxins for the manufacture of insecticides from roots containing rotenone, comprising the steps of digesting the roots, in a broken up state, in common alcohol acidulated by chemically pure sulphuric acid, and filtering the mixture, the filtrate containing the rotenone and also other toxins of an insecticidal value present in the root.

No. 2,056,916, Detergent Composition, Patented October 6, 1936 by Waldemar Blech, Cleveland, Ohio, assignor to Thurlow G. Gregory, Cleveland, Ohio. A relatively harmless, water rinsable detergent composition for removal of cellulose lacquer and stains from the skin and consisting essentially of: a highly volatile cellulose lacquer solvent capable of loosening cellulose lacquer from the skin, and selected from the group consisting of butyl acetate, ethyl acetate, pentyl acetate, ethyl propionate, ethylene-glycol-mono-ethyl-ether acetate, ethylene-glycol-mono-butyl-ether acetate and mixtures thereof, in proportion of about 13% by weight, soap in proportion of about 15% by weight, a blending agent consisting of carbon tetrachloride in proportion of about 7% by weight, glycerine in proportion of about 7% by weight, filler in proportion of about 14% by weight, abradant in proportion of about 19% by weight and water in proportion of about 25% by weight.

No. 2,056,984, Separation of Unsaponifiable Matter from Saponifiable Materials Containing the same, Patented October 13, 1936 by Max Schellmann, Oppau, and Hans Franzen, Mannheim, Germany, assignors to I. G. Farbenindustrie Aktiengesellschaft, Frankfort-on-the-Main, Germany. In the separation of volatile, unsaponifiable matter of high molecular weight from saponifiable high molecular materials containing the same, by saponification and distillation, the step which comprises converting, by saponification, the saponifiable constituents into an aqueous mixture of magnesium, calcium and potassium soaps in such relative proportions that the melting point of the crude saponification product, when in the anhydrous state, is below 150° C., the volatile unsaponifiable matter being separated from the aqueous soap mixture by distillation.

No. 2,057,192, Process for Bar Soap, Patented October 13, 1936 by Willis A. Hutton, Seattle, Washington. In apparatus for making bar soap, a soap conditioning kettle, a low pressure pump, a conduit connecting the low pressure pump with the bottom of the soap conditioning kettle, a receptacle for material which is to be added to the soap connected with the conduit, a high pressure pump, a saponifying valve connected with the high pressure pump through which the soap from the high pressure pump must pass, a soap cooling device, a conduit connecting the soap cooling device with the valve, means for circulating temperature controlling agent through the soap cooling device, a soap extruding conduit and soap conduit means connecting the soap passageways of the soap cooling device with the soap extruding conduit.

No. 2,058,200, Insecticidal Solution, Patented October 20, 1936 by Robert Wotherspoon, East Orange, N. J., assignor to Derris, Inc., New York, N. Y. A composition of matter consisting of a non-aqueous solution of the insecticidal principles obtainable from one or more members of the group consisting of derris and pyrethrum in at least one member of the group of alkylated phenolic ethers consisting of safrol, anethol, methyl eugenol and camphor oil the solvents being in sufficient quantities to maintain the insecticidal principles in solution.

No. 2,058,588, Insecticide, Patented October 27, 1936 by Carl P. Hopkins, Grand Junction, Colo., assignor to The Latimer-Goodwin Chemical Company, Grand Junction, Colo. An insecticide, comprising an insect poison, and a carrier which renders deposits thereof easily removable, the carrier containing as an essential ingredient an emulsified unneutralized heterocyclic nitrogenous oily base.

No. 2,058,781, Hydrogenated Naphtha Soap, Patented October 27, 1936 by Carleton Ellis, Montclair, N. J., assignor to Standard-I. G. Company. The process of plasticizing soap, which comprises incorporating it with a non-flammable hydrogenated petroleum distillate of a boiling range substantially of 300° to 400° F. as the essential plasticizing agent.

No. 2,058,832, Insecticides Containing Derris Extracts, Patented October 27, 1936 by Nicholas A. Sankowsky, New Providence Township, Union County, N. J., assignor to Stanco Incorporated. A method for preparing a clear concentrated liquid insecticide which comprises extracting rotenon, and other constituents toxic to insects, from a plant containing such toxic substances, by treating the plant with a mixed solvent, which is capable of selectively dissolving the toxic substances to the exclusion of resinous materials which, upon dilution of the extract with kerosene, would be precipitated, comprising a petroleum distillate having a maximum boiling point below 625° F. and a sufficient amount of an organic solvent soluble in the petroleum distillate and having solvent power for the toxic substances to dissolve at least 2½% of the toxic substances.

No. 2,059,052, Cleaning and Polishing Material, Patented October 27, 1936 by Frederick W. Sperr, Jr., Vineland, N. J. A soap-free metal-tarnish removing material consisting essentially of a "thiocyanate gas liquor" free from soluble sulphides.

No. 2,059,125, Insecticide, Patented October 27, 1936 by Frank H. Lyons, Memphis, Tenn., assignor to E. L. Bruce Company, Memphis, Tenn. An insecticide comprising principally ortho-dichlorobenzol and a volatile petroleum solvent, and containing also alcohol, B-naphthol and rosin.

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Soybean Oil

(*From Page 39*)

soy flour is said to yield an ash of high alkalinity, to be rich in phosphorus, copper, iron, and many times richer than ordinary wheat flour in calcium. The flour is not suitable for use alone in baked products, but used with about three times its weight of wheat flour makes a very suitable product for ordinary baking. Higher proportions of soybean flour are used for the preparation of special, low-starch content foods.

In addition to being made into a flour, the meal can also be used in the manufacture of soy milk, bean curd, soy sauce, and bean powder. Among other uses of soybean meal which have attracted considerable attention have been the various uses to which casein derived from it have been put,—for water paints and calcimines, as a paper size, and more recently, in the production of synthetic wool.

Mr. Ford's publicizing of the soybean has aroused much interest and his researches have led to some amazing discoveries. The story goes that in 1930 Mr. Ford decided on a program for the decentralization of industry through forging a closer linkage between agriculture and manufacturing. He decided that increasing the use of agricultural products in domestic industry should be one of the main problems of the Edison Institute. Many farm products were investigated in the search for something which could be incorporated into the manufacture of automobiles. Mr. Ford selected soybeans as the object of his greatest effort as it proved to be the most promising. The Edison Institute in Greenfield Village runs a six-ton experimental extraction unit. Soybeans are flaked and the flakes are carried countercurrent through the solvent. Then the solvent is drained from them and they are dried. The oil and solvent flow off through a filter and the oil is freed from the solvent. The recovered solvent is reused. Mr. Ford uses soybean oil in enamel for painting cars, both in the production of the glycerin used in making the glyptal resin and as the oil modifier of the finished enamel. The high protein content of soybean meal hinted at its use in molded products and led to actual success in the experiments which were made.

Recently soybean beer flakes have been placed on the market to be used to replace some of the malt generally used and to provide for a creamy stable head of foam on beer. Their enzyme activity is held to increase to a large extent the extract yields from malts.

AS HAS been pointed out, soybean oil finds wide use in the manufacture of oil soaps, that is the soft potash soaps when the cost of the oil permits its use for this purpose in competition with other suitable oils. If the domestic production of soybean oil were such that the price could be brought down to a level where it might always be possible to use it in the soap kettle, there is no doubt but that it would be a welcome addition to the list of fatty raw materials for certain types of soaps. However, inasmuch as it is an agricultural crop, grown on farms of various and sundry sizes in the middlewest, on land which is suitable for corn and other food crops, there does not seem to be much likelihood that an increase in production of the beans and oil could bring any permanent reduction in price to the level necessary for economical use in the soap kettle. A cut in the price of oil would carry a lower price for beans to the farmer, and at the lower price, there would unquestionably be a shift away from the soybean to other crops. Furthermore, the channels of the food and paint industries offer a far more attractive outlet for the oil to crushers. It is only when the soapers are able and willing,—or are compelled by circumstances,—to bid against these two consuming groups for soybean oil, that it goes into soap manufacture at all.

There is another angle, however, in the increasing production of soybean oil which may have a direct future bearing on the soapmaker's raw material situation. As the production of the oil grows, it means that there is just so much more fatty raw material available for all purposes, and the tendency is to lift the pressure from other oils and fats which are of greater interest to the soaper. It has been said that soybean oil in America is eventually going to be another cottonseed. If this be true, and it is considered that cotton oil production is a billion pound crop, the ultimate effects of soybean oil may be great in all directions where fatty raw materials are used. There is a maximum of fats which can be consumed for edible purposes. Therefore, any great increase in the supply of edible fats will mean that such portion of these fats above the edible maximum will be forced into the non-edible class and may be available for the soap kettle. Present excise taxes on imported oils and fats which so effectively shut off some of these oils and fats from the American market, tend to encourage domestic production and bring such a situation nearer to hand. Of course, there are numerous other factors also to be considered in any trend of this kind. Nevertheless, if there is to be a wide expansion in the total fatty oil production of the United States over the next few years, soybean oil,—encouraged as it is by a 3½ cent per pound tariff which so effectively shuts out all foreign oil,—will unquestionably play a major part in the development.

—— ♦ ——

Cotton waste or other fibrous material is impregnated with a mixture of olein, xylene, pine oil, aqueous ammonia, powdered limestone, water and denatured alcohol. To form a glass cleaning and polishing preparation. Friedrich Fath. British Patent No. 445,880.

Does Your Insecticide Line Include a

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Ground for Percolation
Fine Powder
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Minimum 4% and 5% Rotenone and with high content of total active extractives

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Manufacturers of bed bug exterminating liquids report that our Prentox H. I. Concentrate has been giving them rather extraordinary results. A surprising number of users report better results with Prentox H. I. Concentrate than they have obtained with other materials.

If you are manufacturing a product of this type, we believe that Prentox H. I. Concentrate merits your attention. If not, it should be worth while talking over with one of our representatives the desirability of adding this item to your insecticide line. We shall be glad to make definite recommendations as to the use of Prentox H. I. Concentrate in rounding out your insecticide line.

R. J. PRENTISS & CO., INC.

100 GOLD STREET NEW YORK, N. Y.

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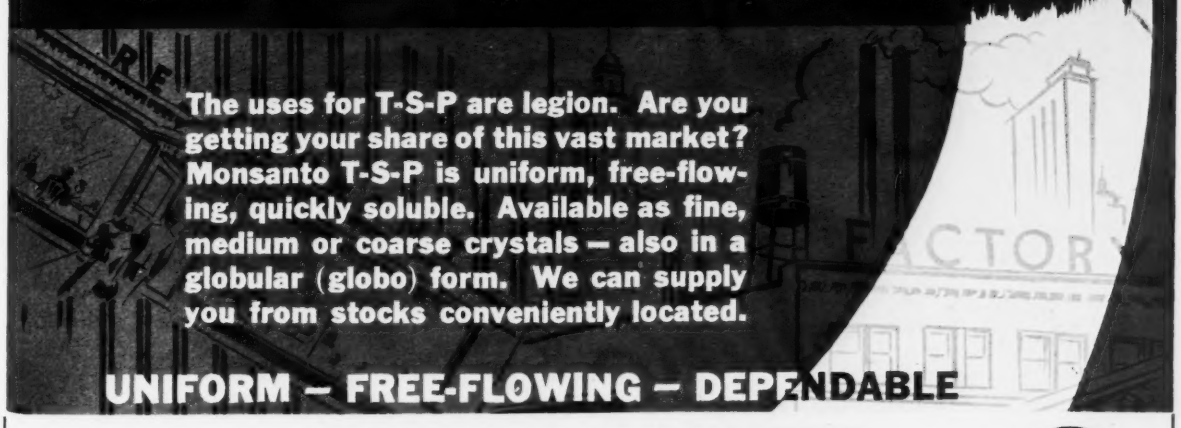

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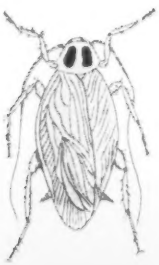

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PARA-DICHLOROBENZENE *has everything*

Always

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2 YEARS IN TESTS

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Today they offer you another great advance in pyrethrum extracts—tested, proved, *improved* Pyrocide 20. Improved Pyrocide 20 is practically odorless —cuts perfume costs ½ to ⅔. Improved Pyrocide 20 dilutes clear with ANY base oil. It does *not* stain. And it costs you not one cent more.

Again MGK have written a new chapter in the history of pyrethrum. Again they have demonstrated the value to you of their forward looking policy "First experiment, then test, then offer a thoroughly proven better product."

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Your fly spray may be the best on the market today but if it has an unpleasant odor it's "on the spot". There are so many others available with a fresh, pleasing scent—an inducement any customer finds hard to resist. Why not give your product this added attraction? It costs so little and it counts so much towards creating new sales and establishing good will.

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KEROZONE—Givaudan's newer fly spray odor—unusually different and refreshing—suggesting fresh, clean air.

LILAC SPRAY OIL B-3223-2 is especially blended to overcome the odor of kerosene in fly sprays.

NEW MOWN HAY OIL B-3470 is one of the most popular in fly sprays. Especially effective in killing kerosene odor.

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A Market for
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SANITARY ACCESSORIES

Because SOAP thoroughly covers the entire soap, sanitary products and chemical specialty fields, including janitor supply houses as well as manufacturers, the magazine is a market place for all kinds of bulk and private brand products and sanitary accessories. Whether you sell soap bases, finished bulk or private brand soaps of any kind, disinfectants, insecticides, floor or moth products, mops, brushes, floor machines or, in fact, anything in this line that is handled on a jobbing basis, SOAP is the magazine to use for advertising.

Look on page 160 for a complete list of firms advertising bulk products. Most of these advertisers have been using space for several years. In a good many instances they are now using considerably more advertising than they were at the start. What better recommendation as a result getter could SOAP possibly have? As for sanitary accessories—the same firms buy mops, brushes, floor machines, etc., as buy bulk and private brand products for resale.

If you are in position to handle business of this type why not get full information about what SOAP has done for others in the bulk field? Remember—even manufacturers buy bulk and private brand products because few concerns interested in marketing a complete line have facilities for making everything in their own plants. Add to this the requirements of the regular janitor supply industry and you have something worth making a special effort to get.

Advertising Department, SOAP
254 W. 31st St. New York City

Lethane 384

When you are in PHILADELPHIA *this month—*

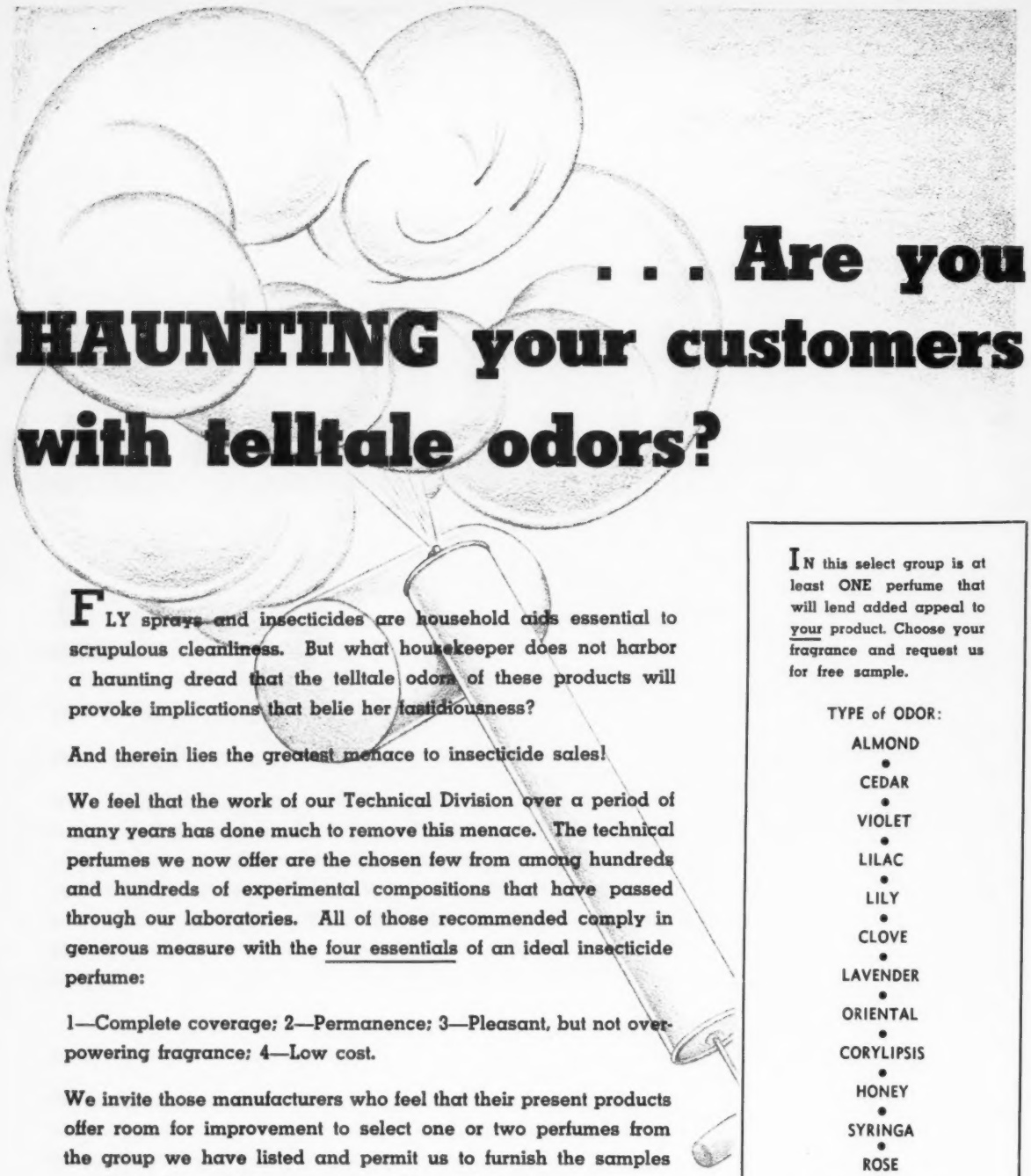
at your Annual Meeting—you will be considering many matters vital to your business success in 1937. Among other important items you will be discussing insecticidal concentrates.

If you are not already acquainted with Lethane 384, plan to visit our office—a stone's throw from Independence Hall—so that we may inform you of its characteristics. If you have additional time, be sure to visit our laboratories at Bristol and see the definite proof of Lethane 384's exceptionally fast knockdown and definite killing power.

We hope we shall have the pleasure of entertaining many of our friends, both old and new.

RÖHM & HAAS COMPANY, INC.

***222 West Washington Square,* PHILADELPHIA, PA.**



. . . Are you HAUNTING your customers with telltale odors?

FLY sprays and insecticides are household aids essential to scrupulous cleanliness. But what housekeeper does not harbor a haunting dread that the telltale odors of these products will provoke implications that belie her fastidiousness?

And therein lies the greatest menace to insecticide sales!

We feel that the work of our Technical Division over a period of many years has done much to remove this menace. The technical perfumes we now offer are the chosen few from among hundreds and hundreds of experimental compositions that have passed through our laboratories. All of those recommended comply in generous measure with the four essentials of an ideal insecticide perfume:

1—Complete coverage; 2—Permanence; 3—Pleasant, but not overpowering fragrance; 4—Low cost.

We invite those manufacturers who feel that their present products offer room for improvement to select one or two perfumes from the group we have listed and permit us to furnish the samples necessary for careful comparison and experimentation.

"Fragrance Creates Sales Appeal"

FRITZSCHE Brothers, inc.

816 WEST 8TH STREET LOS ANGELES, CAL
Proprietors of PARFUMERIES de SEILLANS Seillans, France
FRITZSCHE BROTHERS, of Canada, Ltd., 77-79 Jarvis St., Toronto, Canada

PORT AUTHORITY COMMERCE BLDG.
76 NINTH AVENUE, NEW YORK, N. Y.
118 WEST OHIO ST. CHICAGO ILL

IN this select group is at least ONE perfume that will lend added appeal to your product. Choose your fragrance and request us for free sample.

TYPE of ODOR:

ALMOND
•
CEDAR
•
VIOLET
•
LILAC
•
LILY
•
CLOVE
•
LAVENDER
•
ORIENTAL
•
CORYLIPSIS
•
HONEY
•
SYRINGA
•
ROSE
•
ORANGE BLOSSOM
•
HONEYSUCKLE
•
JASMINE
•
WISTARIA

Uniformity

—assured by constant tests in the most complete laboratories in the insecticide industry

The finest milled Pyrethrum and Derris Powders in the world are produced by McCormick & Company. These powders are standardized analytically and biologically in the McCormick Laboratories and, because of their extreme fineness, contain more killing particles per ounce. McCormick & Company also produces Pyrethrum and Derris Powders which are stabilized to prolong their toxicity when exposed to light and air. Our recommendations for the use of these powders are based upon actual field performance. Write for information. McCormick & Co., Inc., Baltimore, Md.

McCormick's PYRETHRUM AND DERRIS POWDERS

By Invitation Member

Emblem of BUSINESS CHARACTER

Rice Leaders of the World Association

Represents High Standing in NAME-PRODUCT-POLICY

Here you see, in operation, the Tyler Ro-Tap Testing Sieve Shaker in the McCormick Laboratories. This device tests, with mathematical accuracy, the fineness of the grind of each mill run of McCormick's Pyrethrum and Derris Powders.

McCormick's STANDARDIZED PYRETHRUM AND DERRIS PRODUCTS

PYRETHROL 20 • PYRETHRUM POWDER • DERRIS POWDER
DERRIS EXTRACT • DERRIS RESINATE • ROTENONE CRYSTALS

FOR BETTER INSECTICIDES

use the new

PYREFUME SUPERFINE

or

PYREFUME SUPERFINE ODORLESS

PYREFUME SUPERFINE

is processed so that it is lighter in color and odor. Inert matter has been removed by further refinement and this new PYREFUME can be used effectively in place of ordinary extract in odorless base since it can be diluted with the usual odorless solvents to make a spray nearly free from the kerosene smell. PYREFUME SUPERFINE costs the same as PYREFUME in the usual petroleum distillate base oil.

PYREFUME SUPERFINE *Odorless*

is the result of extended laboratory work and represents definite advance in purified and refined pyrethrum extracts. The last possible quantity of inert material has been removed and the solvent employed is entirely free from any objectionable petroleum distillate odor. There is no precipitate in this extract. When diluted to a 1 to 1 strength it is odorless and practically colorless. The cost of *PYREFUME SUPERFINE ODORLESS* is the same as PYREFUME in odorless base.

PYREFUME SUPERFINE *and* PYREFUME SUPERFINE *Odorless*

are stabilized against deterioration by our original and exclusive method developed and used by our laboratories for the past *three* years.

SAMPLES AND QUOTATIONS ON REQUEST.

Call on us for technical data on all types of insecticides.

S. B. PENICK & COMPANY

132 NASSAU STREET, NEW YORK

1228 WEST KINZIE STREET, CHICAGO

REPRESENTATIVES ALL OVER THE WORLD

THE WORLD'S LARGEST BOTANICAL DRUG HOUSE

SOLVAY
TRADE MARK REG. U. S. PAT. OFF.

PRODUCTS

FOR YOUR PRIVATE LABEL

Put Solvay quality into your packages and get more profits out of your private label trade. Solvay produces a wide variety of highest quality products, which are especially adapted to the needs of repackers. Write today for full information and prices.

SOLVAY SNOWFLAKE CRYSTALS
(TRADE MARK REG.)

Pure white, crystalline, immediately and entirely soluble, always free running, Solvay Snowflake Crystals is an excellent water softener and effective soap saver. Perfect solubility enables this mild cleanser to do its work without leaving a residue. Snowflake Crystals also makes the most perfect base for bath salts.

SOLVAY FLUF
(TRADE MARK REG.)

Fluf makes an ideal cleanser to add to your line of products because it produces the largest package with the lightest weight. Fluf is an extra light soda ash made especially fluffy, bulky and light by a process exclusive with Solvay.

SOLVAY SPECIAL CLEANSERS

—mixtures of basic materials used in all general cleansing. Solvay manufactures a complete line of these cleansers, covering every cleansing need which can be filled by the use of milder types of alkali. Special booklets describing these products can be obtained from any office of the Solvay Sales Corporation.

SOLVAY SPECIAL ALKALIES

Solvay Special Alkalies are specially prepared mixtures of a stronger type than the Special Cleansers. These alkalies are well adapted to the heavy duty type of cleaning. Full information will be supplied promptly upon request.

SOLVAY DETERGENT

Detergent of special grades adapted to various kinds of scouring, is another Solvay line which is providing profitable business opportunities in private label trade. Another field in which Solvay quality enables you to beat competition! Full information upon request.

SOLVAY PARA-DICHLOROBENZENE

In Fine—Medium—Coarse—Super-Coarse Crystals

Especially well adapted to block manufacture. Solvay Para-dichlorobenzene is supplied in carefully graded crystal form, insuring perfect blending with colors and perfumes. A product of exceptional purity. Delivered in a selection of packages wide enough to meet all marketing needs.

SOLVAY ORTHO-DICHLOROBENZENE

For insecticide sprays and metal polishes. A water-white liquor shipped in 55 gal. drums and 5 gal. cans. The important ingredient for the termite exterminating solutions.

Mail coupon today for prices and full information

SOLVAY SALES CORPORATION

Alkalies and Chemical Products Manufactured by The Solvay Process Company

40 RECTOR STREET NEW YORK

BRANCH SALES OFFICES:

Boston			Philadelphia
Charlotte	Cleveland	Kansas City	Pittsburgh
Chicago	Detroit	New Orleans	St. Louis
Cincinnati	Indianapolis	New York	Syracuse

SOLVAY SALES CORPORATION
40 Rector Street, New York

Gentlemen: Please send me complete information on the products checked off below:

☐ Special Alkalies ☐ Snowflake Crystals ☐ Detergent
☐ Solvay Fluff ☐ Special Cleansers
☐ Ortho-dichlorobenzene ☐ Para-dichlorobenzene

Name _____

Address _____

City _____ *State* _____

Type of business _____ SD

We're here, because we're here

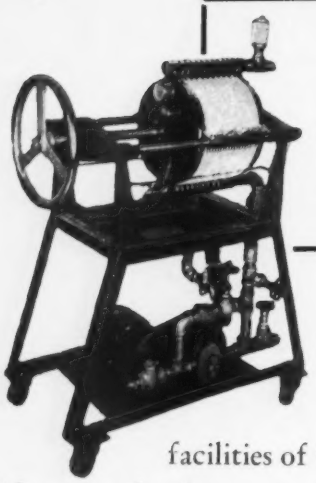
with **GREETINGS TO YOU!**

Another Annual Meeting of our friends . . of you who have made it an annual privilege for us to join in trading ideas for the mutual advancement of a great industry. We welcome a share in your discussions . . we enjoy your spirit of companionship . . we re-pledge ourselves to your service.

"NATIONAL"

NATIONAL CAN COMPANY INC • 110 EAST 42nd STREET • NEW YORK

A Price Tag
Only Shows THE PRICE!
PRICE consideration is often
outweighed by the QUALITY
invitation of an appropriate
PACKAGE • A Fine
CONTAINER carries no price
premium, and today's buying
habits move instinctively closer
to assertive product DISPLAY
Good Packaging Judgement
Goes "NATIONAL"
NATIONAL CAN COMPANY • 'Inc.'
One of America's Largest Canmakers
EXECUTIVE OFFICES • 110 EAST 42nd STREET • NEW YORK
SALES OFFICES AND PLANTS
NEW YORK CITY • BALTIMORE • BROOKLYN • CHICAGO • BOSTON • DETROIT • NEW ORLEANS • HAMILTON, OHIO



FOR BRILLIANCY, SPEED AND EFFICIENCY USE ERTEL FILTERS

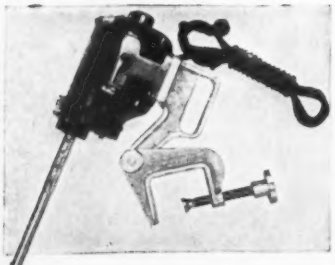
ERTEL filters are being extensively used today for filtering shampoos, disinfectants, liquid soaps, sprays and polishes. Why experiment? The facilities of the Ertel laboratories are always at your disposal and, if you are having any problem, send in a gallon of your liquid and let us help solve your problem. This involves no cost to you.

ERTEL PORTABLE MIXERS

BE one of those operating at an advantage with an Ertel Mixer. Have *your* ingredients more thoroughly, more permanently mixed. Ertel Direct Drive and Ertel Back Geared Mixers do the job better . . . quicker . . . at less cost. Light in weight. Scientifically balanced. Easy to handle.

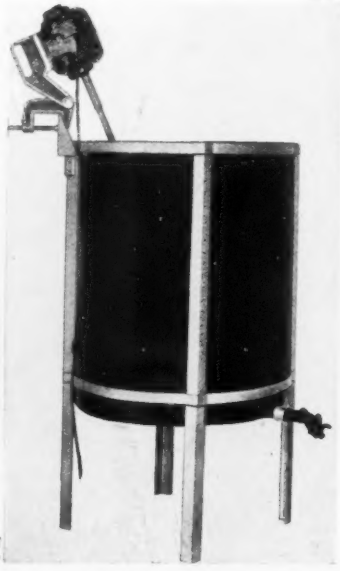
MIXING and STORAGE TANKS

MADE in either Allegheny Stainless Steel or Glass Lined. Acid-Resistant. Non-Corrosive. Easily Cleaned. Easily filled. Easily emptied. Either kind in sizes up to 500 gallons. Especially useful to the trade making soaps, disinfectants, polishes, etc. Use them for both storage and mixing.



Manufacturers of

ASBESTOS Disk Filters, Neutral Asbestos Filter Sheets, Pumps, Portable Mixers, Glass Lined Tanks, Allegheny Stainless Steel Tanks, Jacketed Tanks, Portable Vacuum Bottle Fillers, Semi-automatic Vacuum Bottle Fillers, Capping Equipment.



ERTEL ENGINEERING CORPORATION

Dept. C. 120 E. 16th St. New York, N. Y.

CHECK THESE ADVANTAGES

and you'll choose

IMPROVED PYROCIDE 20

CHECK these advantages in terms of *your* product. Consider what a brilliant clarity may do for your spray . . . an almost odorless product . . . one that will not stain. These are additional sales-making qualities you can add to your product by using Improved Pyrocide 20 . . . at NO INCREASE IN COST.

Improved Pyrocide 20 gives you the purest and most stable form of pyrethrins available for commercial use. It is the most nearly odorless of any regular pyrethrum concentrate and, therefore, requires less perfume, thus reducing costs. It dilutes clear with Deobase, No. 9, or any other base oil. Improved Pyrocide 20 will not stain.

If you need a concentrate, practically 100% odorless, except for the aroma of pyrethrum flowers, we suggest Improved *Odorless* Pyrocide 20. It sells for only 15 cents per gallon more than Improved Pyrocide 20.

Both of these better concentrates, the Improved *Odorless* Pyrocide 20 and Improved Pyrocide 20, are guaranteed to contain 2.4% pyrethrins by weight, or the equivalent to 2 grams per 100 cc. For complete information write:

McLAUGHLIN GORMLEY KING CO • *Minneapolis*

Improved **PYROCIDE 20**

THE ORIGINAL STANDARDIZED PYRETHRUM CONCENTRATE

Heard at

A RIGHT CURIOUS CROWD AT THE CONVENTION THIS YEAR—AND A LOT OF THEM ASK US THE SAME QUESTIONS. PERHAPS YOU, TOO, ARE BAFFLED BY ONE OR TWO OF THESE PROBLEMS, SO HERE ARE THE ANSWERS

QUESTION:

"Where can I get a good design for my tin container without spending a lot of dough?"

ANSWER:

Continental maintains a large staff of competent designers whose services are available to any manufacturer. Just let them have a sample of your present container and they'll be delighted to analyze your problems and offer suggestions for redesigning.

QUESTION:

"I have a hunch that a different shape might make my package distinctive, or that some sort of an easy opening gadget or unique closure would give my container a competitive edge. Where can I get advice on that sort of thing?"

ANSWER:

The Continental Development Department spends its days, and many

CONTINENTAL

NEW YORK CHICAGO

the Convention

sleepless nights, solving problems of just that sort. They are the boys who developed the famous Cap Sealed beer can with the easy-opening, easy-pouring features that make it so popular with consumers. The facilities of this department are available to anyone.

QUESTION:

"Why should I use lithographed cans instead of paper labels?"

ANSWER:

Because the rich lasting beauty of an attractively lithographed container implies quality, has eye-appeal, and in every way does a better selling job. Your brand name is permanently affixed to a container which frequently has a secondary use in the home. It does not mar or tear, is water-resistant and virtually stain proof. To many manufacturers the substitution-proof feature of a lithographed container whose label cannot be changed is a mighty important factor.

QUESTION:

"Could you make a can for my insecticide like the Whoofis Company uses for liquid wax?"

ANSWER:

Of course! We manufacture a complete line of tin containers in every conceivable size, shape and style—from tiny ointment cans to 250-lb. drums. Continental renders a complete packaging service.

CAN COMPANY

SAN FRANCISCO

Notes from the...

PUBLISHED NOW AND THEN BY

Pine Odor Clicks for CLIX

For many years dogs have been washed with strong smelling soaps which have reacted most unpleasantly upon the dog's highly sensitive sense of smell. Magnus, Mabee & Reynard, Inc. experts were consulted by the Animal Supply Corp. of America, producers of the new CLIX Dog Remedies, to produce a double purpose fragrance. The scent must be acceptable to dogs as well as highly deodorant to remove all trace of "doggy odor." CLIX Dog Soap and Flea Powder, subtly scented with a refreshing pine odor, immediately clicked with dogs and owners. CLIX products have been hailed in kennel columns as the first "Dog Remedy innovation in a generation."

—♦—

Oil Bergamot Prices Zoom

In spite of the sharp rise in the price of Oil of Bergamot Hand Pressed Italian no advance is expected in Oil Bergamot Artificial M M & R. This effective substitute for Bergamot Natural is gradually replacing the hand pressed variety. It closely approaches the natural and has full ester content. Bergamot Artificial M M & R is priced approximately 50% below the natural. It can be used in compounded perfumes and is ideal for hand soaps. Like other M M & R substitutes for expensive natural oils it is used to effect economies in production without sacrificing the quality of the finished product.

The SOAP BOX

How Names Are Born

How the name Delmareo was chosen for one of our quality perfumes is an interesting study in etymology. DEL—meaning—of or from. M—for Magnus and Mabee. A—for and. R—for Reynard. E—for essential. O—for oils. Placed together DELMAREO is the symbol of one of the finest perfume oils in the M M & R line of high grade odors. It is an all-purpose odor that lends itself to varied usages.

Smell Improves Vision

Next time you go to the Follies take a bottle of Oil Citronella Java M M & R. A deep breath will stimulate the sense of smell which, we are told, temporarily improves the sight.

Scenting the Perfume Trend For Insecticides and Disinfectants

"The old order changeth yielding place to new." It is not the manufacturer but the housewife who sets the trend in Insecticide and Disinfectant perfumes. The reason for this is that the physical appearance of the preparations are virtually all identical, so that the housewife makes her choice primarily through her sense of smell. The halcyon days are gone forever, for we live in an age where insecticides that do the trick and "live to tell the tale" are taboo. Mixtures of Oil Cedarleaf, Oil Cade, Myrbane and cheap compounds are definitely on their way out and the perfume trend is looking up, the search is on for odors that will lend personality to insecticides and disinfectants. The consumer selects the odor that appeals to his or her particular sense of smell. In line with this it is well to bear in mind these two all-important factors:

(1) Your products must be acceptable to the average housewife from the standpoint of effectiveness and odor personality.
(2) Your product must give sufficient coverage for the solvents used, and at the same time, leave very little tell-tale evidence.

The Growing Use of Lethane

With the gradual increase of Lethane base sprays, difficult conditions, entirely different from previous problems, make it necessary for perfumers to produce odors based on entirely new principles. The M M & R laboratories have pioneered in this field and have provided perfumes which will cover the Lethane odor. We quote from our correspondence with a noted entomologist:—"In connection with the problem of perfuming Lethane 384, we should like to emphasize one point: viz., that it will probably be necessary to use an odor having a heavy base, that is, one that will outlast the Lethane 384. A number of our customers have mentioned that in the case of some perfumed Lethane sprays the odor is very pleasant when first applied but that it soon disappears, and the smell of Lethane becomes evident. This, of course, indicates that the problem with Lethane is to actually deodorize the concentrate by means of a heavy base perfume which would be used in very small quantities."

"Another point that should be kept in mind in this work also is that any perfumes designed for use in Lethane, or for use in any fly spray, should be clear and not cloudy. So far as we have observed, the samples that you have sent us have been entirely satisfactory in this regard, but we are merely mentioning this point since it is very important."

Referring to this authority's remark regarding the necessity of covering the Lethane so that it will not react on the nostril to give a burning or biting effect, it is well to add that this particular objection has been thoroughly overcome by M M & R laboratory experts with such perfumes as Perfume Oil Kerospray Bouquet Chrysanthemum M M & R, Kerospray Bouquet Sweet Grass and others.

M M & R PERFUME-O-GRAM

MAGNUS, MABEE & REYNARD, INC.

Brenn Says Low Grade Perfumes Are Detriment to Para Bloc Industry

Fighting Address to Manufacturers Creates Favorable Reaction

J. L. Brenn, who admits to having acted as a sort of midwife at the birth of paradichlorbenzene blocs 18 years ago placed the responsibility of the continuance of the industry on the manufacturer's choice of perfumes at a recent address.

Says Mr. Brenn, "As far as the manufacture of blocs today is concerned, a great deal need not be said on the subject. It is primarily a job of selecting the right perfume, using enough of it, mixing it with the paradichlorbenzene and compressing or forming the mixture into blocs or tablets . . . . the old method of melting the paradichlorbenzene mixture with heat and pouring the melted material in moulds for the forming of the blocs by the natural cooling process is obsolete."

"Para Blocs as Rare as Detachable Cuff Shirt"

Mr. Brenn emphatically stated, "the most important point always has been, still is and probably always will be, the amount and quality of the perfume."

Commenting on the utility of the Para Bloc to mankind, Mr. Brenn placed it in the quality class saying, "it is primarily a product appealing to the esthetic sense of man. So long as we maintain the fine and continuously fine aroma of the product to properly fulfill this esthetic desire, so long will it fulfill a need." He stressed the fact that, "the moment you take away these finer qualities from it then it is worse to use in a toilet room than nothing at all."

On the important subject of price Mr. Brenn added, "so long as there are people who think that low price alone is what it takes to get business, so long will there continue to be a declining business in paradichlorbenzene blocs." Summing up, he warned in a straight forward fashion, "Why don't you people in the bloc business get wise to yourselves and see how much nicer smelling you can make your blocs rather than staying up nights figuring how much cheaper you can make them? We must learn how to cater to the quality market with this item if we want to survive."

Mr. Brenn is to be congratulated for his message in which he pictured the situation in its true light. As a supplier of Para Bloc perfumes we have stressed his views many times. We are happy to report that the trend is turning from cheap perfumes to the quality odors Mr. Brenn feels are essential to the continuance of the Para Bloc industry.

The Nth Degree in Perfume Exclusiveness

Perfumes are now in the category of limited edition books. According to Drug Trade News a concern is now marketing "Limited Edition Perfumes" with a guarantee that the purchaser will be one of 1000 women in the entire world to whom the perfume is available.

This marks an extreme in exclusiveness but it fosters a trend towards quality odors which M M & R has advocated for many years.

The number of manufacturers for whom we are preparing special perfume formulae has been increasing, indicating a definite trend towards greater individuality in perfumes. 1936 has marked one of the biggest years for the perfume division of the M M & R organization with every month showing the business curve climbing above the previous month's business.

M M & R Officials to Attend Philadelphia Insecticide Convention

Gordon Leech

R. B. Magnus, vice-president and Gordon Leech, M M & R resident representative in the convention city will be in attendance at the 23rd Annual Convention of the National Association of Insecticide and Disinfectant Manufacturers on December 7th and 8th in the good city of Philadelphia. An interesting program is planned by the convention directors and all indications point to a record attendance. The convention will sound the keynote of the favorable outlook for manufacturers of Insecticides and Disinfectants.

Chicago M M & R Office Expands

Reflecting the increased demand for Magnus, Mabee & Reynard Quality Essential Oils, Balsams, Aromatic Chemicals, Basic Perfumes and Flavoring Materials throughout the Midwest, the M M & R Chicago office has been enlarged. The new offices and stockrooms at 444 West Grand Ave., Chicago operating under the management of George A. Cammerer are now better equipped than ever to give complete and prompt service to the consuming trades.

Perfume Oil Headquarters

Magnus, Mabee & Reynard, Inc.

32 Cliff Street - - - New York, N. Y.

Offices in Principal Cities

BREUER'S TORNADO ELECTRIC SPRAYERS

HERE IS THE FINEST GROUP OF AUTOMATIC ELECTRIC SPRAYERS EVER BUILT!

1/3 H.P. G.E. MOTOR
TIME SWITCH OPERATES 1 TO 45 MINUTES AUTOMATIC SHUT OFF
ADJUSTABLE NOZZLE SPRAYS IN ANY POSITION
VOLUME CONTROL FINEST DIFFUSING WITH WARM AIR
COMPRESSOR TYPE
1 GALLON CONTAINER

MODEL 36

PUT IT TO THIS TEST

Do the sprayers you are using spray heavy drops—or break the insecticide up into a fine gas formation to give a dry spray like that produced only by Breuer's Tornado Electric Sprayers?

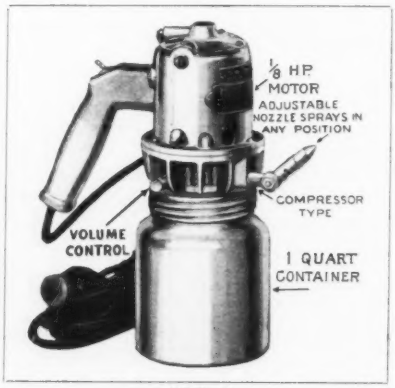
To get real results from your insecticide, use the Model 36, 53, or 54 Compressor Type Sprayers with exclusive volume control. Greater efficiency and longer life of these sprayers will make more profit for you in repeat orders and increased business. Build better business with Tornado quality!

ADJUSTABLE NOZZLE SPRAYS IN ANY POSITION
TIME SWITCH OPERATES 1 TO 45 MINUTES AUTOMATIC SHUT OFF
VOLUME CONTROL FINEST DIFFUSING WITH WARM AIR
1 QUART CONTAINER

MODEL 54

MODEL 36 This latest model combines automatic time switch, volume air control, one gallon capacity, 1/3 H.P. G. E. Universal Motor among its features. Sprays large volume great distance in finest gas formation. Penetrates every possible source of insect existence.

MODEL 54 This model is exactly like the Model 36 except for smaller capacity. 1/8 H.P. G. E. Motor with only one quart container. Also, like the Model 36, sprays desired amount of insecticide and then shuts off. Time switch may be set one to forty-five minutes.



MODEL 53

MODEL 53 Exactly like the Model 54 except that it has no automatic time switch. Adjustable for fine or heavy spray. As with all Tornado Sprayers, the patented principle of heating and compressing material does the trick.

Write for latest bulletins.

BREUER ELECTRIC MFG. CO.
862 Blackhawk St. Chicago

We do not sell insecticides. Our business is manufacturing sprayers.

YOUR OPPORTUNITY

to produce a better

PERFUMED FLY SPRAY

USE

MIMOXENE
VEROXENE

. . . the modern scientific way to perfume fly sprays . . . at less than 3 cents per gallon

Write for samples and further information relative to Mimoxene and Veroxene—the super effective Kerosene and Petroleum Distillate odorizers.

P. R. DREYER INC.

12 EAST 12th ST. NEW YORK

It's the odor that National Association of Insecticide and Disinfectant Manufacturers Incorporated 1914 *sells the Product*

SMALL WONDER SO MANY MANUFACTURERS COME TO CANCO!

● There's every good reason for it. Canco offers a choice from the largest assortment of cans. The greatest variety in sizes. The widest selection in types of containers—metal and fibre. A delivery service made possible by 48 local factories. A Packaging Research Service second to none. Plus style-creating LITHOgraphy that helps make your product into a leader.

For containers that have "What it takes" just say Canco

AMERICAN CAN COMPANY

230 Park Avenue CANCO New York, N. Y.

PARA BLOCK and SPRAY MANUFACTURERS

·AS·
·WE·
·STOCK·
·SAFROL·
·GERANIOL·
·LILACINE·
·SASSAFRAS·
·LEMON GRASS·
·AND OTHER VERY·
·INEXPENSIVE ITEMS·
·SO DO WE STOCK A·
·BETTER CLASS OF ODORS·
·TO BRING YOU REPEAT
·BUSINESS, AMONG WHICH ARE—

FOR PARA	FOR SPRAY
PARA LAVENDER	SPRAY LILY
PARA NARCISSE	SPRAY ROSE
PARA CEDAR	SPRAY FOUGERE
PARA ROSE	SPRAY LAVENDER

AT

$2.50 per lb.

PROTECT YOUR INVESTMENT
WITH ODORS
THAT WILL BRING REPEAT BUSINESS

CHARLES FISCHBECK CO·INC·
119 WEST 19th STREET
NEW YORK
"Backed by a Quarter of a Century of Experience"

HIGH-SOUNDING ADJECTIVES NEVER KILLED AN INSECT!

DI-BUG

PYRETHRUM EXTRACTS AND POWDER . . . PROVIDE "SURE KILLING POWER" . . . BASED ON THESE IMPORTANT FACTS:

- ★ Made from the very finest selected NEW CROP flowers.
- ★ HIGH pyrethrin content.
- ★ EVERY BATCH is thoroughly tested biologically by the AUTHORITATIVE METHOD.
- ★ Complete chemical assay of pyrethrin content is made at START and FINISH.

For these reasons, you can ALWAYS depend on DI-BUG Products for quality that never varies, killing power that never fails.

● *WRITE FOR IMPORTANT LITERATURE*

SHERWOOD PETROLEUM COMPANY, INC.

Main Office: BUSH TERMINAL . . . BROOKLYN, N. Y.

(Stocks carried in principal cities)

DO THIS now and skip next year's headache.

Send us one gallon of your insecticide, fly spray or other product *unperfumed.* Send it without perfume in it so that we can send back to you a number of samples of it perfumed in the way we think right. When we recommend in that way, we base our suggestion on *real knowledge and experience.* We've helped a lot of pretty good manufacturers sell more goods. Perhaps we can help you too. It doesn't cost much to try, so send along the unperfumed gallon.

van Ameringen-Haebler, Inc.

315 FOURTH AVENUE, NEW YORK

Chicago *Toronto* *Los Angeles* FACTORY, ELIZABETH, N. J.

Manufacturers and Importers of Aromatic Essentials

AROMATIC CHEMICALS—ESSENTIAL OILS—FLAVORS—PERFUME SPECIALTIES—

MODERN DEODORIZING

of your products is the major feature at point-of-sale appeal today. The odor in vogue stimulates the demand for your product.

You Can Obtain Perfect Results with Economy

by using **Aromatic PRODUCTS, INC.**

DEODORIZING and PERFUMING MATERIALS

For Polishes

• AROPOLS

special products for white type of polish

For Fly Sprays

• ODOCENES

odors with remarkable covering power, possessing a clean refreshing scent

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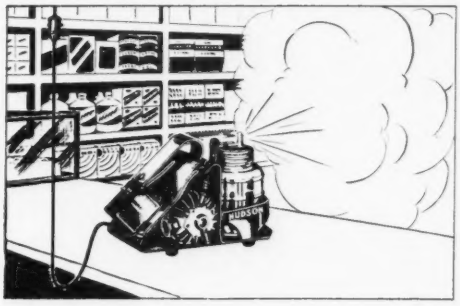

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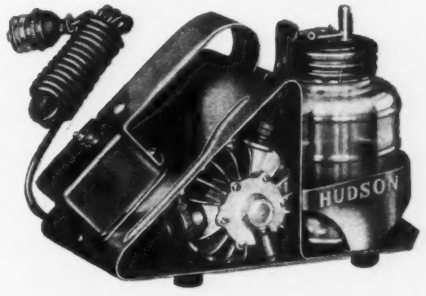

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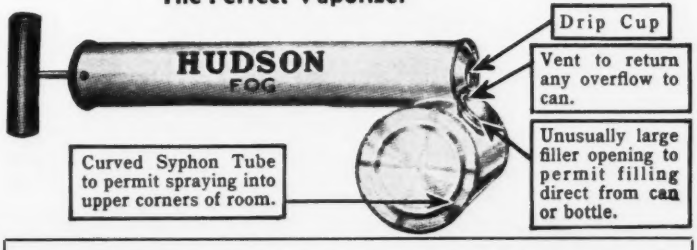
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SANITARY PRODUCTS

A Section of SOAP

Official Publication, Nat'l. Assn. of Insecticide & Disinfectant Manufacturers

THE twenty-third annual meeting of the National Association of Insecticide & Disinfectant Manufacturers is convening in Philadelphia as this issue of SOAP reaches its readers. We find the leading American manufacturers of insecticides, disinfectants, and allied sanitary specialties meeting together for their annual convention away from New York for the first time in twenty years. We find a live, progressive group of manufacturers slowly, but surely, traveling the road leading to the solution of the more important problems of the industry. If they fail of immediate attainment of this end, it is not through lack of honest effort. All that is necessary is to look back almost a quarter-century to the time of the founding of the Association, to realize how far they have traveled and what progress has been made.

TO the writer of a column on household problems in a well-known newspaper, the query was recently directed: "I bought 'X' insecticide. Is this a good insecticide or do you know a better one, one that *doesn't smell so badly?*" The reply stated that the insecticide in question is a good one, but also offered to send the name of a product with a less offensive odor.

From what we have observed in the reactions of housewives to liquid insecticides, an offensive odor,—and this may even include too great a quantity of a strong perfume,—is the single greatest drawback to repeat business in insecticide sales. No matter how effective the insecticide, if it leaves behind an unpleasant, tell-tale odor, the housewife does not want it the second time. The day of the off-odor insecticide is past, whether all manufacturers in the trade know it or not.

AMONG other things which the National Association of Exterminators & Fumigators is accomplishing in attempting the bring order out of chaos in the exterminating industry, is the adoption of a code of ethics for its membership. Unquestionably this is a step in the right direction, for if there is anything from which the industry suffers more than from any other, it is from crooked and unethical dealings. However, we wonder just how much attention the rank and file of exterminators are going to pay to such a code of ethics. Without legal teeth with which to enforce it, will not the reputable houses be left holding the bag? Of course, this is no reason why an attempt by the Association to put into force such a code should not receive the support of all firms which honestly want to aid in the improvement of conditions.

While this subject of a code of ethics is up for discussion, the exterminating industry,—and this means every last firm in the business,—might do well to take stock again of its standing and reputation in the community of business. The exterminators of highest standing are the first to admit that their industry has suffered in reputation by widespread chiseling and fakery,—and that a great deal of the business is little more than a racket. The rottenness goes right to the core. It is going to take more than a published code of ethics,—no matter how commendable the effort,—to clean out the rotten spots. Something akin to a business revolution is going to be needed. Maybe the code will be the first step.

Labeling, Legislation Discussed

Insecticide & Disinfectant Manufacturers in Session at 23rd Annual Meeting—Hold Label Clinic—Discuss Legislative Problems—Hear Dr. Cox of California—Drs. Hunsiker, Griffin, Reddish, and Klarmann Speak—Grady Talks on Peet-Grady Test —Plan Further Improvements in Standards for Insecticides and Disinfectants.

THE 23rd annual meeting of the National Association of Insecticide & Disinfectant Manufacturers, in session December 7 and 8 at the Penn Athletic Club, Philadelphia, has before it for discussion numerous important problems of the insecticide, disinfectant, chemical specialty, and sanitary supply manufacturers. These include future policies of manufacturers in regard to specifications and standards for both disinfectants and insecticides, label claims and the application of the law to these claims, scientific progress and methods of testing insecticides and disinfectants, legislation and legislative problems both federal and state, marketing trends, raw material markets and the outlook, and other subjects.

A clinic on labeling problems is planned, covering a discussion of label claims and their possible conflict with the Insecticide Act of 1910, and also the Foods & Drug Law, with Dr. E. L. Griffin, Senior Chemist of the Insecticide Division of the Food & Drug Administration, Washington, making the general presentation of the subject. All phases of labeling disinfectants, insecticides, and related products are being brought before the meeting.

Other prominent speakers at the Philadelphia meeting of the insecticide and disinfectant manufacturers include Dr. William C. Hunsiker, Director of Public Health of the City of Philadelphia; Dr. Emil Klarmann of Lehn & Fink on "Progress in the Field of Disinfectants and Antiseptics," G. R. Rinke of John Powell & Co., on "The Pyrethrum Market Outlook;" James F. Hoge of the Proprietary Association on the Robinson-Patman Act and the Food and Drug Bill; A. G. Grady of the Sinclair Refining Co. on "The Correct Technique of the Peet-Grady Test;" Wallace Thomas of the Gulf Refining Co. on "Standards and Specifications for Insecticides;" C. L. Weirich of C. B. Dolge Co. on "Trends in the Sanitary Specialties Business," and a discussion led by Charles Opitz of John Opitz, Inc., on "Shall Fly Sprays Be Offered as All-Purpose Insecticides?" "California Poison Act as Applied to Disinfectants and Insecticides," by Dr. Alvin J. Cox, Chief, Division of Chemistry, California Dept. of Agriculture will also be heard. W. G. Griesemer will read a paper entitled "1937—What?" R. V. Wilson of the Continental Can Co. will give a report on the "Effects of Storing Liquid Insecticides in Cans."

This is the first time in twenty years that the annual meeting of the National Association of Insecticide & Disinfectant Manufacturers is being held away from New York City. For the past ten years, the Association has held its mid-year meeting (this Association meets twice a year) at the Edgewater Beach Hotel in Chicago. W. B. Eddy of the Rochester Germicide Co., Rochester, N. Y., president of the Association, is presiding at the general sessions. At insecticide sessions, W. G. Griesemer, head of the Black Flag Co., Baltimore, and first vice-president, is presiding. At disinfectant sessions, H. Marshall Clark of Dr. Hess & Clark, Inc., Ashland, O., and second vice-president, is presiding.

General convention arrangements are in charge of John H. Wright, secretary. Dr. Robert C. White of the Robert C. White Co., who is the present Comptroller of the City of Philadelphia, has made the arrangements for housing the convention at the Penn Athletic Club and at the Warwick Hotel, adjoining. John Powell of John Powell & Co., New York, treasurer, is handling financial arrangements of the meeting. H. W. Hamilton of the White Tar Co., Kearny, N. J., is chairman of the program committee, and A. L. van Ameringen of van Ameringen-Haebler, Inc., New York, head of the entertainment committee.

Sessions of the 23rd annual meeting opened at 9:00 A.M. on December 7, continuing through two days. The meeting closes on Tuesday evening with the annual informal banquet to be held at 7:00 P.M. at the Penn Athletic Club. A surprise entertainment under the direction of Dr. White and Mr. van Ameringen, the details of which were not revealed in advance of the meeting, is planned. No speakers are scheduled at the dinner. Preceding the regular meeting on Monday, there was a meeting of the Board of Governors at the Penn A. C. on Sunday evening, December 6.

The program follows:

Monday, Dec. 7—Morning Session

W. B. Eddy, President, will preside

9:30 A.M. Registration

Meeting called to order—President W. B. Eddy, Rochester Germicide Co., Rochester, N. Y.

A Welcome to Philadelphia and the Penn Athletic Club—Dr. Robert C. White, The Robert C. White Co., Philadelphia, Pa.

Announcements

"The Harmony That Was Belgium"—W. B. Eddy,

d at Philadelphia Meeting

Rochester Germicide Co., Rochester, N. Y. (published herewith).

"Legislation"—J. H. Wright, Secretary, National Association of Insecticide and Disinfectant Manufacturers. (Published herewith.)

Report of the Treasurer—John Powell, John Powell & Co., New York.

Roll call

Report of the Committee on Time and Place of the June Meeting.

Report of the Entertainment Committee—A. L. van Ameringen, van Ameringen-Haebler, Inc., New York.

"Trends in the Sanitary Specialties Business"—C. L. Weirich, The C. B. Dolge Co., Westport, Conn.

Report of the Publicity Committee—Ira MacNair, MacNair-Dorland Co., New York.

"Effects of Storage in Tin Cans on Liquid Insecticides"—R. V. Wilson, Continental Can Co.

Report of the Membership Committee—R. H. Young, Davies-Young Soap Co., Dayton, Ohio.

12:30 P.M. Luncheon

Monday, Dec. 7—Afternoon Session

H. Marshall Clark will preside

2:00 P.M. Meeting called to order

Announcements

Report of Special Committees.

Report of the National Councillor to the U. S. Chamber of Commerce—C. P. McCormick, McCormick & Co., Baltimore, Md.

Address by The Honorable S. Davis Wilson, Mayor of the City of Philadelphia. Introduction by Dr. Robert C. White.

"The Robinson-Patman Law and the Food and Drugs Bill"—James F. Hoge, General Counsel Proprietary Association, Washington, D. C.

4:00 P.M. General Meeting adjourned

Meetings of Committees: To be announced.

Tuesday, Dec. 8—Morning Session

W. G. Griesemer will preside

10:00 A.M. Meeting called to order

Announcements

"Should The Phenol Coefficient Method Be Used For Testing Antiseptics"—Dr. G. F. Reddish, Lambert Pharmacal Co., St. Louis, Mo.

"The Correct Technique of The Peet-Grady Test"—A. G. Grady, Sinclair Refining Co., East Chicago, Ind.

"The California Economic Poisons Act As Applied to Insecticides and Disinfectants"—Dr. Alvin J. Cox, Chief, Division of Chemistry, Dept. of Agriculture, State of California, Sacramento, Calif.

"1937—What?"—W. G. Griesemer, The Black Flag Co., Baltimore, Md.

"Insecticide Specification and Standardization"—Wallace Thomas, Gulf Refining Co., Pittsburgh, Pa.

Those in charge of arrangements at the 23rd annual meeting of the Insecticide & Disinfectant Mfrs. Assn., include the following:

General Arrangements.....JOHN H. WRIGHT
Housing Accommodations..DR. ROBERT C. WHITE
Finances.....JOHN POWELL
Program.....H. W. HAMILTON
Entertainment.....A. L. VAN AMERINGEN
Banquet.....DR. ROBERT C. WHITE
Publicity.....IRA P. MACNAIR

"Testing Insecticides"—Dr. Alfred Weed, John Powell & Co., New York

"Progress in the Fields of Disinfectants ad Antiseptics"—Dr. Emil Klarmann, Lehn & Fink, Inc., Bloomfield, N. J.

Report of the Nominating Committee.

"Disinfectant Specifications and Standardization"—J. L. Brenn, Huntington Laboratories, Huntington, Ind.

"Some Factors in the Culturing of Staph. Aureus"—B. G. Philbrick, Skinner & Sherman, Inc., Boston, Mass.

Report of the Disinfectant General Committee—Melvin J. Fuld, Fuld Brothers, Inc., Baltimore, Md.

12:30 P.M. Luncheon

Tuesday, Dec. 8—Afternoon Session

W. B. Eddy, President, will preside

2:00 P.M. Meeting called to order

Announcements

Report of Resolutions Committee

"The Pyrethrum Market Outlook"—A Discussion from the Floor—Discussion Leader: G. R. Rinke, John Powell & Co., New York City.

"A Clinic on Labeling"—General Presentation of Problem by Dr. E. L. Griffin, Senior Chemist, Insecticide Division, Food and Drug Administration, Dept. of Agriculture, Washington, D. C.

Address by Dr. William C. Hunsiker, Director of Public Health, City of Philadelphia, Pa. Introduction by Dr. Robert C. White.

"The Toxicity of Rotenone-Containing Products"—Dr. H. B. Haag, Professor of Pharmacology, Medical College of Virginia, Richmond, Va.

"Shall Fly-Sprays Be Offered as All-Purpose Insecticides?"—Charles Opitz, John Opitz, Inc., Long Island City, N. Y.

Election of Officers

Unfinished Business

4:00 P.M. Final Adjournment.

THE HARMONY that was Belgium

By W. B. Eddy*
Rochester Germicide Co.

IT is a great pleasure and privilege for us to meet here in this historic city. We enjoy it the more because this is the home town and bailiwick of one of the most highly regarded members of our Association. It was he who supervised our own little Tower of Babel when N.R.A. was inaugurated. In that series of crises, his outstanding powers of leadership and diplomacy coordinated the conflicting view points of the industry and of government as skillfully as could be done by any one man. He gave freely of his time and energy to try to effect the ideal arrangement. When the inevitable collapse came, his work left us with many benefits, in better understanding of one another's problems, in better labor conditions and in better principles of fair competition. For these and for the gracious hospitality offered us here, and for plenty else, we owe a great deal to our good friend Dr. Robert C. White; and I suggest we show a trace of it here and now with a standing round of applause.

This year's Association work has been a mighty happy and lucky job for this Administration. We pay our respects to the vast improvement in general business which has so markedly helped each member to increase his volume, his profit and his employment. In our meeting programs, so capably arranged by our staunch friend Dr. Hamilton and his committee, we feel we have reached the high level of the best preceding work. In the handling of our legislation work, good Dr. Wright and his able committee have been hard pressed as perhaps never before, in keeping you informed, and in coping with the more dangerous aspects of proposed laws, federal and in the 48 states. Their work, alone, has been worth more than the cost of your memberships. A great advance in control of insecticide testing was made this year through the cooperative work of Dr. Weed's and Wallace Thomas' committees and of Dr. Campbell of the U. S. Department. When perfected, this work will rate high among the other great accomplishments of our Association. In our publicity work, we have carried on an extremely ambitious job of work, with real results in all parts of the country. Time does not permit me to give due credit for the valuable work done by all of our committees; but I do wish to express here, for the Association, our appreciation of that effort. Without exception, the work of all committees has well advanced the interests of the Association and the industry.

The title to this paper was not chosen entirely in the hope that it might provoke the curious to swell the box office for our opening session. "The Harmony that was Belgium" refers to the pre-war state of that noble little country, little in size, great in history. You need no reminder of what happened to that country when a great hostile outside force crashed their boundary. Coming back to our business, here is what brought up the title. After a recent meeting of our Board of Governors, I was pleased and flattered by an observation made by one of our most respected and experienced members. He said "Bill, I want to congratulate you on the harmony of purpose and the unanimous interest and cooperation that is being shown you by all the members of your Board." Now, that is a perfectly true statement and I wish to pay tribute to your Board in fully endorsing that statement; but, the credit for it goes to the Board itself and to you who chose such a well balanced, representative governing body. Just to illustrate that harmony, let me give you one instance which gave me a wonderful kick, perhaps in the wrong place. I recently mailed out to each man a question for consideration; and in asking for opinions, I think the form of the question showed a bias in one direction. Every single man who replied took the opposite viewpoint and they were all in harmony. We did not act on that proposition.

Seriously, the harmony of the Board is not in question. What I am thinking of is harmony in the membership and I take for criticism the kind of harmony that should really be called acquiescence. Perhaps I should say lack of enough interest in our problems to lead to any expression at all. Like the pre-war Belgium we are constantly endangered by hostile forces. With us, they are both exterior and interior. The interior enemies are the unethical merchandisers, some of whom exist in any industry. The exterior menace is the constant breeding of restrictive legislation.

Take the last first. If you think that some of us can be so harmonious that we can say "Let John do it," every time Dr. Wright's Committee asks your aid in combatting certain dangerous and unnecessary legislation, there you are expecting too much of any one committee. It's not

* Address of the President, National Assn. of Insecticide & Disinfectant Mfrs., before 23rd annual meeting, Philadelphia, Dec. 7, 1936.

W. D. EDDY
Rochester Germicide Co.
President

that the Federal and State law makers think we, as a class, are enemies of society. It is instead that much new law is being written by men, unexperienced in our field. Those men need and welcome our advice in accomplishing certain results with new laws, without hampering the real service rendered by our industry. If we don't step out and state our suggestions we can expect a lot more of hasty legislation. Some new laws we have seen work like the farmer who used a large bore shot gun to kill a skunk right in the middle of a flock of chickens. He didn't mean to kill all the chickens. Our law makers don't mean to exterminate legitimate business; but they don't know much about us, and it's our job to help John Wright when he asks for cooperation in writing or seeing our state or federal law makers on these matters.

Now for the inside hazards to our harmony, the unethical merchandisers in our industry. I cannot forget the empty seats in Chicago at our June session the day we spoke about standards. Are we afraid of them? Are we going too fast? If so, what's to be gained by hiding our heads in the sand, like the ostrich? If we don't want standards, let's get up on our hind legs and say so and say why. Our committees have worked hard on them since your resolution committee requested it. Let's discuss them and go ahead with them to ultimate adoption and use, or let's discuss them and drop them for another ten years. But, remember that one effective way we, as an Association, without outside aid, can attack the ever present problem of unethical merchandising is by adopting standards and helping the public kill the market for sub-standard goods.

Last June, I outlined a suggested plan for Association registry of products meeting such minimum standards as we may adopt. Since then I have canvassed the opinions of our Board of Governors, individually and collectively on this proposal. Only two members failed to express an opinion. The rest were, with qualifications, in favor of the execution of the plan, provided that we go at it slowly and carefully. The consensus of their opinions was that we should adopt standards—not too high so that they could be met by only a few—not too low so that they would be unworthy of the industry. In their opinion the registry plan should be considered only when we as an Association are financially capable of operating our own testing laboratory, both for approving products and for checking the products sampled from the market to see that they remain up to standard. The ultimate adoption of this plan will cost some money. It would cost more than we could meet from our present membership dues. On the other hand, it might strengthen the purpose and standing of our Association so that our membership might be greatly enlarged and our revenue from present rates materially increased. There is a large source of potential membership revenue from that group which does not join because it thinks that this association does not accomplish anything for their good. So much for the registry plan. It may be carried on by the next administration, if you favor it.

Meanwhile, let's go after these standards on certain insecticides and disinfectants. If we can agree upon those, let's go on to the other types of disinfectants and insecticides not yet discussed. It is not the intention of this Association to think of insecticides only as fly sprays and of disinfectants only as coal tars, pine oils, chlorines or cresols. There are plenty of others with a well-earned place in the field and these are to be considered in order. There will be separate insecticide and disinfectant discussion meetings held directly after the close of this afternoon's short session. They will be open forums for hearings on insecticide and disinfectant standard and specification subjects. I trust that they will be well attended so that progress in this work may be reported to the Association tomorrow.

In our 1936 publicity work we have obtained a great amount of free advertising of the usefulness of our industry. Stories of flood santitation, insect damage and control, moth prevention, etc., have been broadcast very generally through our Special Publicity Committee and the good work of Cal Lewis. This is excellent work. It is for you to decide whether we should carry it on another

(*Turn to Page* 115)

John H. Wright
Secretary

LEGISLATION

By John H. Wright*

IT is my intention, in presenting a combined report of the year's activities of the Secretary's Office and of the Legislative Committee, to deal with the former very briefly. I know of no more disagreeable task than that of either preparing or listening to a detailed recapitulation of a mass of routine familiar to everyone. If you have read our bulletins, you already know what has been done, and are fully qualified to form your own judgment as to the efficiency of the Secretary's Office.

The year has been particularly active in spite of the fact that with the State Legislatures it has been an off year. There have been only nine State Legislatures in regular session and twenty in special session, as compared with over forty last year and approximately the same number scheduled to meet next year.

If we are to judge by past experience, the coming legislative season will see a mass of proposals aimed at the regulation of this, that, and the other thing. Unusual attention must be given to this phase of our activities, if we are to prevent the enactment of unreasonable and unjust proposals directly affecting the business of our members.

During the past year your Secretary has been greatly encouraged by the unusual response to bulletins which have been sent out. The comments received seem to indicate that the members are reading our communications much more intently than in the past and are finding in them material of interest and value. I trust that such a situation does exist. It is most gratifying to know that efforts directed toward the benefit of the entire group are at least meeting with some success.

During the year our work has been decidedly increased because of the activities of your committee on the standardization of insecticides. I am referring particularly to the preparation and distribution of the Standard Control Insecticide. Unfortunately, the demand for this Control has not met our expectations. In fact, it appears that we will have a considerable quantity on hand when it becomes obsolete on January 1 and that it will be necessary for the Association to stand a substantial loss in connection with its preparation and distribution.

As you will realize, the activities of your Legislative Committee are confined principally to that season of the year when State Legislatures are in actual session, i.e., during the late fall, winter and early spring. In my June report I covered briefly the activities of the Committee in connection with last winter's sessions. There is, therefore, nothing new to report at this time so far as actual committee work is concerned.

I do, however, wish to call your attention to the fact that this work is decidedly burdensome upon the members of the Committee as well as your Secretary. A great deal of time and attention are necessary, if effective work is to be carried out. In fact, even during the past session it was impossible for us to give consideration to all legislative proposals in the states and in Congress, which were of direct interest to you. It was necessary for us to limit our attention to those proposals specifically involving a direct effect upon the sale, distribution or labeling of insecticides and disinfectants.

We were compelled to assume that industry as a whole was sufficiently well organized, insofar as possible, to take care of all proposals of wide general import. We have tried to keep you advised of these proposals as they came up and to inform you of action taken by the various legislative bodies. It has, however, been entirely impractical for your Committee to take any active part in the discussions or representations before Congress in such matters as the Robinson-Patman Act, the National Security Act and a host of other Federal and State legislative proposals affecting all business and industry.

Your present committee is not qualified either by experience or training to intelligently analyze such legislation and detemine its possible effect upon your business. I believe it important that some provision be made whereby the influence of this Association, both with the Federal Congress and the State Legislatures, may be effectively brought to bear for the protection of all business interests.

As a constructive suggestion, I would like to propose that the legislative affairs of the Association be entrusted to two separate committees, one to Function as our present committee has in the past and a new committee to be appointed under a chairman, preferably with legal training, and consisting of executives thoroughly familiar with the business and administrative phases of the industry.

I believe that the insecticide and disinfectant industry should be in a position to intelligently and effectively present to the legislative bodies their views upon all matters affecting their business. In the past this has not been done, except insofar as proposed legislation applied specifically to insecticides or disinfectants.

* Report of the Secretary, and the Legislative Committee, before the 23rd annual meeting, Natl. Assn. of Insecticide & Disinfectant Mfrs., Philadelphia, Dec. 7, 1936.

The present Legislative Committee might well be designated as the Insecticide and Disinfectant Legislative Committee and the proposed committee the General Legislative Committee.

The need for such a general committee, consisting primarily of business men, but preferably with the chairmanship of a good lawyer, is well illustrated by the fact that Representative Patman himself has announced his intention of introducing into Congress during the next session an amendment to the Clayton Anti-Trust Act, the effect of which would be to prohibit all retail sales by manufacturers or their affiliates of their own products. Under its terms manufacturers would not be able to transport in interstate commerce "any article or material produced by such manufacturer for sale or distribution at retail by such manufacturer."

The Robinson-Patman Act is a matter of the utmost concern to every manufacturer, regardless of the kind of goods which he produces. It will undoubtedly produce in the near future many complications and problems to all of you. The questions involve many highly technical legal points which will undoubtedly require interpretation by the Supreme Court before their full implication is fully understood.

It is fortunate that we have with us a man of recognized legal ability who is thoroughly qualified to discuss the complications and implications of this Act. He will address you this afternoon and I am sure will present matters of the utmost interest to everyone. I am referring to the discussion to be given by Mr. James F. Hoge, General Counsel of the Proprietary Association.

Mr. Hoge will also discuss the matter of Federal food and drug legislation; a subject in regard to which, as you all know, he is highly qualified. The food and drug legislation will undoubtedly become an important and active subject for discussion immediately after the convening of Congress in January.

Senator Copeland has announced his intention of introducing in cooperation with Representative Chapman of the House an entirely new food and drug bill. Senator Copeland's associate, Mr. Salthe, has been engaged for the past several weeks with conferences of representatives of the Food, Drug and Cosmetic Industry.

Your Secretary will make every effort to keep you advised of developments as they occur, and I can assure you that if the present Legislative Committee is continued, it will give this entire matter its most careful consideration and will make such specific recommendations for action by the membership, as they may consider advisable under the cricumstances.

I cannot, however, urge upon you too strongly the necessity of following closely the work of this committee and lending it your full cooperation when it is requested.

Before closing I wish to say a word about the gratifying situation which has developed in New York State. You are all familiar with the activities of the New York State Board of Pharmacy in restricting the sale of disinfectants and insecticides under authority of the so-called Dunkel Amendment passed by the State Legislature in 1934.

Your Secretary has discussed this matter in detail with the Secretary of the Board of Pharmacy on several occasions. I am glad to advise you that he has indicated a willingness to support an amendment to the Dunkel Amendment, which would exempt from the restrictions of this amendment all insecticides and all disinfectants not intended for the treatment of diseases in man or other animals. We hope to have such an amendment introduced at the coming session of the New York State Legislature and with the cooperation of the State Board of Pharmacy, I have every expectation that it will become a law.

If successful, this would eliminate many of the products of our members from the jurisdiction of the State Board of Pharmacy and relieve the manufacturers from a great deal of unjust annoyance and interference with their business.

I hope that our efforts during the past year have been helpful. If this has been the case, the credit in large part belongs to the members of the Legislative Committee for their hard work and sincere cooperation and to both of the assistants of the Secretary's Office for their loyal support and untiring efforts.

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Address of President Eddy

(*From Page* 113)

year in its present form or whether we should work along different lines. I should like to recommend another class of work. If we adopt either or both of product specifications and product minimum standards, might we not prepare a pamphlet outlining these and including methods of use? These could be used by the members, at cost, with or without their firm imprint. We might include in there a list of the membership indicating which are in a position to supply goods described. We might mail them out direct to large buyers such as Federal, State, County, City, etc. We all know what a variety of specifications are now in use by these buyers of our products. In competitive fairness to all of us and for the convenience of this large group of buyers, should we not set before them the collective judgment of this Association as to what general kinds of insecticides and disinfectants we consider correct and fully competitive?

Gentlemen, we have a great past behind us in the progressive work of our Dreyfus, Klarmann, Peet, Reddish and our other good scientific and merchandising men. Our industry has had a vital part in conquering such insect-borne plagues as malaria and yellow fever and in combatting the diseases of insanitation, in fighting the ever present damage of insect life. When you think of the tremendous possibilities ahead of us in the battle against many of the common diseases that still baffle science, against the forms of insect life that threaten ever increasing damage, you will see that our work is never done. So long as we remain dissatisfied with our present progress, continue to struggle for better methods and materials, there is much in store for us.

PYRETHRUM

A Supplement to the second edition of "Pyrethrum Flowers" is prepared by the author.

C. B. Gnadinger

General Manager, McLaughlin Gormley King Co.

THE first edition of "Pyrethrum Flowers" was published in 1933. New contributions to our knowledge of pyrethrum made necessary the publication of the second edition in April, 1936. Since that time nearly a hundred papers relating to pyrethrum have appeared, some of them very important to users of pyrethrum. This supplement is prepared, therefore, to bring "Pyrethrum Flowers" up to date, November 1, 1936. The material is divided according to Chapter headings.

Commercial Sources of Pyrethrum

Keogh (52) reports that Kenya flowers are compressed in bales of 448 lbs. under pressure of 3 tons per square inch. The bales measure 36 x 24 x 20 inches.

Production of pyrethrum in Kenya is strictly controlled by laws. All growers must be registered and growers can sell only to the recognized agency which is the Kenya Farmers' Association (Cooperative) Limited, Nairobi. This agency has the exclusive right to export pyrethrum. An Advisory Board to the agency, consisting of eight members, is appointed by the Governor of the Colony.

Shafik and Hindi (77) found that pyrethrum grows well in Egypt except in the extreme south and in soil with high water level.

Active Principles of Pyrethrum

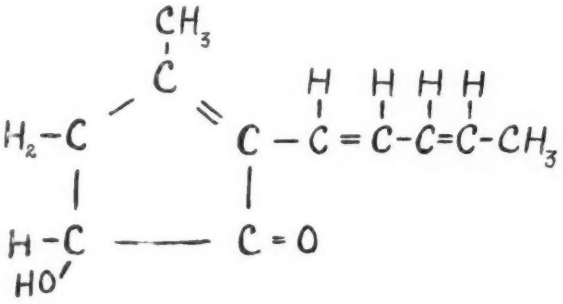
Haller and La Forge (36) have prepared the semicarbazones of pyrethrins I and II from the concentrates purified by their methods (30, 37, 56). The semicarbazone of pyrethrin II was easily obtained in pure condition, melting at 165°. On hydrolysis with oxalic acid by the method of Staudinger and Ruzicka (30), pyrethrin II was obtained, which was again converted into the semicarbazone identical with the original compound.

On the other hand the pure pyrethrin II obtained by the authors by their molecular distillation method (30) did not yield a satisfactory crystalline semicarbazone, from which it was concluded that some intramolecular change took place during distillation.

The semicarbazone method of Staudinger and Ruzicka apparently yielded a purer pyrethrin II than the distillation method of Haller and La Forge. This was also true of pyrethrin I. Ripert (71) claims that pyrethrin II is not identical with that described by Haller and La Forge.

Haller and La Forge (36) concluded that pyrethrolone semicarbazone has two hydrogen atoms less than reported by Staudinger and Ruzicka. They also found that chrysanthemum monocarboxylic acid and dicarboxylic acid form crystalline para-phenylphenacyl esters which serve for their isolation and identification.

La Forge and Haller (54, 55) have suggested the following formula for pyrethrolone ($C_{11}H_{14}O_2$).



This new formula is based on an extensive investigation of the structure of the ring and upon suggestions of Ruzicka regarding the structure of the side-chain; the side-chain structure has not been definitely proved. This change would, of course, affect the formulas of pyrethrins I and II, making the molecular weights 328 and 372 respectively instead of 330 and 374, the values at present in use. This would introduce a very small error of about 0.6 per cent into analytical results calculated on the old basis.

Chemical Evaluation of Pyrethrum

Gnadinger and Corl (30) have shown that the Seil method gives higher results than their copper reduction method. The Seil method gave results from 5 to 33 per cent higher, averaging 13 per cent higher.

Haller and Acree (30) found that the Seil method gives higher results for pyrethrin II than the Haller-Acree methoxyl method, averaging 27 per cent higher.

Graham (32) concluded that the Seil method is inaccurate when applied to perfumed extracts in the manner directed by Seil. Graham found that the Seil procedure

resulted in losses of pyrethrins amounting to 25 per cent.

Wilcoxon (90) has recently studied the determination of pyrethrin I by the Seil method. He prepared chrysanthemum monocarboxylic acid by saponifying a petroleum ether oleoresin of pyrethrum with alcoholic sodium hydroxide solution, diluting with water, boiling off the alcohol and adding barium chloride as in the Seil method. The filtrate, after the barium chloride treatment, was acidified with sulfuric acid and extracted with petroleum ether. The petroleum ether extract was washed with aqueous sodium hydroxide and discarded; the sodium hydroxide solution was acidified with sulfuric acid and extracted with petroleum ether which was washed free from sulfuric acid, dried over anhydrous sodium sulfate and evaporated in vacuo. The yield was 11 g. of crude acids from 188 g. of oleoresin.

To obtain pure monocarboxylic acid, the 11 g. of crude acids were twice fractionated by vacuum distillation (2.5 m.m. pressure). The purest fraction was recrystallized from 80 per cent methanol. The identity and purity of the monocarboxylic acid were established by microchemical combustion, preparation and analysis of the silver salt, physical constants, titration and the parachor of Sugden. The acid was 99.8 per cent pure, by titration.

Weighed portions of the pure monocarboxylic acid were distilled with steam in the presence of sulfuric acid and the distillate was extracted with petroleum ether as in the Seil method. Titration of the petroleum ether extract showed only 69 to 71 per cent recovery of the weight taken. Wilcoxon concluded that the monocarboxylic acid is "either not entirely volatile with steam, or it is partly decomposed by heating in the presence of sulfuric acid."

Wilcoxon next investigated the reaction of Deniges' reagent with chrysanthemum monocarboxylic. This reaction has been described by Audiffren (30) and Seil (30). Wilcoxon succeeded in developing the following method for determining the monocarboxylic acid and, indirectly, pyrethrin I.

"The sample should be of such a size that it will contain between 50 to 70 mg. of pyrethrin I. The preliminary treatment is the same as that described by Seil. The 200 cc. aliquot obtained after the barium chloride treatment is treated in a separatory funnel with 1 cc. conc. H_2SO_4, and extracted with two 50 cc. portions of low boiling petroleum ether. The barium sulphate precipitate does not seem to cause any difficulty. The petroleum ether extracts are washed successively with several small portions of water, and filtered through a small plug of cotton into a fresh separatory funnel. The combined petroleum ether extract is shaken vigorously with a slight excess of N/10 NaOH and the aqueous layer is run off into a small 100 cc. beaker. The ether layer is washed once with a few cc. of water and the washings added to the beaker. The beaker containing about 10 to 12 cc. is treated with 10 cc. of Deniges' reagent* and allowed to stand one hour. Three cc. of saturated NaCl solution are added after which the precipitated calomel (and possibly other substances) are filtered and washed several times. The precipitate and filter paper are introduced into a titrating bottle containing 20 cc. H_2O, 30 cc. conc. HCl, cooled, and 6 cc. chloroform added. The titration with M/100 KIO_3 is performed as described by Jamieson** until the iodine color disappears from the chloroform. In the case of a very small sample a little ICl solution may be added as suggested by Jamieson. The end point is not entirely permanent, so the titration should be carried out promptly with vigorous shaking.

"According to Jamieson 1 mol. of iodate is equivalent to 4 atoms of mercurous mercury, while we have found 3 atoms of mercurous mercury equivalent to 1 mol. of pyrethrin I. Hence the factor for converting cc. M/100 KIO_3 to pyrethrin I is:

$$1 \text{ cc. } \frac{\text{M KIO}_3}{100} = \frac{0.04 \times 330}{3} = 4.4 \text{ mg. pyrethrin I}$$

Since a 200 cc. aliquot was taken out of 250 cc., this factor (4.4) must be multiplied by 1.25 to give mg. pyrethrin I in the sample."

Wilcoxon's comparison of his method for pyrethrin I with Seil's method showed that Seil's method gives low results for pyrethrin I. For example, a sample of "pyrethrin resins" giving 10.38 per cent pyrethrin I by the Seil method gave 13.16 per cent by the Wilcoxon method.

From the foregoing it would seem that Seil's method gives low results for pyrethrin I and high results for pyrethrin II. The same errors are probably inherent in Tattersfield's and Ripert's acid methods. Ripert (71) has compared his method with Seil's and with others.

Biological Evaluation of Pyrethrum

Badertscher (10) reports that the Peet-Grady method yields higher kills than the Campbell turn-table method on pyrethrum sprays and thiocyanate sprays.

Zermuehlen and Allen (92) have also described a method for testing fly sprays.

Relative Toxicity of Pyrethrins I and II

Hartzell and Wilcoxon (40) have recently repeated their earlier work on the relative toxicity of pyrethrins I and II, using extracts purified by a modification of the La Forge and Haller method (30). Extracts high in pyrethrin I were compared with extracts high in pyrethrin II; the ratio of pyrethrin I to pyrethrin II varied from 4.0 to 0.047.

When acetone extracts high in pyrethrin I were compared with similar extracts high in pyrethrin II, on *Aphis rumicis*, diluting with water, pyrethrin I was considerably more toxic than pyrethrin II. This confirmed the conclusions of Tattersfield (30) and the earlier work of Wilcoxon and Hartzell (30).

When a miscible oil such as Penetrol was used as a solvent, instead of acetone, the difference in toxicity of pyrethrins I and II tended to disappear.

* Pharmacopoeia of the U. S. A. 10th rev., p. 490.

** Volumetric Iodate Methods, 96 pp., Chemical Catalog Co., New York 1926.

When kerosene extracts high in pyrethrin I were compared with kerosene extracts high in pyrethrin II, on house flies, by the Peet-Grady (30) and Nelson (30) methods, no significant difference was found in the toxicity of the two pyrethrins. This confirmed the conclusions of Gnadinger and Corl (30).

Hartzell and Wilcoxon concluded that the physical condition of the pyrethrins at the time of application is a determining factor in the relative toxicity.

When aqueous sprays are used, made by diluting acetone solutions of the pyrethrins with water, the pyrethrins are thrown out of solution, forming emulsions of varying degrees of stability. In kerosene extracts the pyrethrins are, of course, in solution. "The relative toxicity of pyrethrins I and II depends almost entirely upon the method of application."

These results obtained by Hartzell and Wilcoxon reconcile the divergent views hitherto held by different investigators regarding the relative toxicity of the two pyrethrins. They also indicate that the determination of the total pyrethrin content is an index of the toxicity of a pyrethrum product, at least in the case of pyrethrum-oil sprays, and that determination of pyrethrins I and II separately is not essential. This is also probably true of most horticultural sprays, especially those containing oils.

Adulteration of Pyrethrum

Acree and La Forge (1) investigated the pyrethrin content of the field daisy (*Chrysanthemum leucanthemum*). Gnadinger and Corl (30) had previously reported that daisy flowers do not contain pyrethrins. Acree and La Forge extracted daisy flowers with petroleum ether, obtaining an oleoresin resembling pyrethrum oleoresin. Analysis of the daisy oleoresin by the Seil method showed an apparent pyrethrin I content of 5.2 per cent and an apparent pyrethrin II content of 5.1 per cent; analysis by the Haller-Acree method showed 3.7 per cent pyrethrin II. The daisy oleoresin was non-toxic to flies. No crystalline semicarbazone could be obtained. Acree and La Forge concluded that daisy flowers contain no appreciable quantity of pyrethrins and that the apparent pyrethrin content found by the Seil and Haller-Acree methods was not due to pyrethrins but to other substances.

Manufacture of Pyrethrum Extracts

Haller and La Forge (37) remove the fatty acids from pyrethrin concentrate by dissolving the concentrate in aniline, washing with aqueous potassium carbonate solution and then removing the aniline from the concentrate with hydrochloric acid.

La Forge and Haller (56) prepare a concentrated pyrethrum extract by dissolving oleoresin of pyrethrum in glacial acetic acid, precipitating fats, waxes and coloring matter by the addition of a small quantity of water, filtering off the precipitate and separating the pyrethrin concentrate from the acid solution by the further addition of water.

Pyrethrum Household Insecticides

Standard for Household Insecticides

In 1936 the National Association of Insecticide and Disinfectant Manufacturers adopted the following specifications for household sprays, reported by Thomas (82).

1. A household spray type liquid insecticide, when tested by the Peet-Grady method and in conjunction with the N. A. I. & D. M. official Control Insecticide and in accordance with the methods prescribed in the printed directions accompanying each standard package of control insecticide, shall yield an average kill not less than 95 per cent of the average kill obtained by the official Control Insecticide.

2. This particular insecticide shall be harmless to man and warm blooded household animals when used as directed.

3. When sprayed as directed, it shall not stain fabrics, wall paper and general household furnishings.

4. When used in the customary manner, it shall not penetrate closed packages of food materials commonly found in homes.

5. It shall not corrode metals.

6. It shall have no objectionable odor, and no particular odor shall be specified.

7. It shall have a flash point not less than 125° F. when tested in the Tagliabue closed cup.

The preparation of the "official Control Insecticide" referred to above has been described by Weed (87).

Substitutes for Pyrethrum

The materials most commonly offered as substitutes for pyrethrum are rotenone, derris and related products and organic thiocyanates. The use of rotenone and derris in combination with pyrethrum has been restricted by a patent covering the use of such combinations (30).

Lightbody and Mathews (59) have shown that rotenone administered by mouth, in oil, is much more toxic than when given as a solid or in suspension. They state: "It was soon found that rotenone in olive oil solution fed to white rats had a toxicity comparable to that of strychnine." This is about 20 times the toxicity previously reported.

Mathews and Lightbody (62) found that the toxicity of an acetone extract of derris to rats was five times as great as expected from the rotenone content, indicating the presence of physiologically active compounds other than rotenone.

Ambrose and Haag (5) concluded that rotenone is not an index of the toxicity of derris to warm blooded animals and that derris is extremely more toxic when inhaled than when taken by mouth. Derris acts upon the respiratory system.

All of these results indicate that rotenone and derris are much more toxic to warm blooded animals than hitherto supposed, especially in oil solutions, or when inhaled. Millers of derris and pyrethrum have known for years that men employed in the milling of derris are

frequently made ill, while in milling pyrethrum, no discomfort of any kind is experienced.

Although organic thiocyanates have been used in household and livestock sprays for several years, little information has been published regarding their toxicity. In a recent paper, however, von Oettingen, Hueper and Deichmann-Gruebler (67) have reported on the pharmacological action and pathologic effects of eight organic thiocyanates (rhodanates). The compounds studied were: methyl thiocyanate, ethyl thiocyanate, *n*-butyl thiocyanate, octyl thiocyanate, decyl thiocyanate, lauryl thiocyanate, myristyl thiocyanate and *n*-butyl-carbitol thiocyanate.

The toxicity of these compounds was determined on mice, rats or cats, or rabbits by subcutaneous injection, when administered by mouth in large and small doses, when applied to the skin and when inhaled. It also appeared that liver tissue is able to liberate hydrocyanic acid from some thiocyanates.

The authors concluded that even small doses of the lower homologues cause paralysis of the medullary centers; the higher homologues were effective only in large doses. The higher homologues, however, were found to have a distinct irritant effect on the mucous membranes and the skin. Acute thiocyanate poisoning is characterized by severe circulatory disturbance. With the higher homologues degenerative changes occur in the brain, liver and kidney.

Everyone who contemplates using organic thiocyanates in household and livestock spray will find the original paper of interest.

Graham (32) concluded that in the analysis of perfumed pyrethrum sprays by the Seil method, there is a loss due to volatilization of the pyrethrins with steam and to decomposition; his losses approximated 25 per cent of the pyrethrins. Ripert (71) has disputed Graham's conclusions.

Le Pelley and Sullivan (58) compared the toxicity of alcoholic solutions of pyrethrins and rotenone. Their results were much the same as those obtained by Campbell with oil extracts (30).

Pyrethrum Livestock Sprays

Cory, Harns and Anderson (18) investigated the use of dusts for controlling flies on cattle. They concluded that impregnated dusts were more effective than dusts made by mixing pyrethrum powder with fillers. Impregnated dusts were also more effective than sprays. Pine oil added little to the efficiency of the dusts. Stable flies were more susceptible to the dusts than house flies.

Pyrethrum Horticultural Powders, Dusts and Sprays

Hamilton (38) employed paste made of clay, pyrethrins and water for killing boring insects.

Loucks (60) found dusts containing 0.05 to 0.08 per cent of pyrethrins effective against grape leaf skeletonizers and aphids.

Notley (66) controlled *Antestia* on coffee by dusting with finely ground pyrethrum flowers at the rate of 7.5 pounds of powder per acre of 600 trees. Kills of 94 to 98 per cent were obtained. *Lygus* were also killed.

Thomas (81) found pyrethrum dusts effective for controlling the tomato pin worm *Gnorimoschema lycopersicella.*

Trappmann and Nitsche (83), in experiments on 18 species of insects, concluded that pyrethrum is clearly superior to rotenone as an insecticide.

Miscellaneous Uses of Pyrethrum

Ginsburg (28) has employed his pyrethrum larvicide to protect outdoor gatherings from mosquito bites. The concentrated stock larvicide was diluted with 10 to 12 parts of water and applied, as a fine mist, at the rate of about 53 gallons per acre. Spraying was done about half an hour before the gatherings took place. Sixty-five meetings were treated; the area treated ranged from 1000 square feet to 8 acres. In 72 per cent of the experiments complete elimination of mosquito annoyance was obtained and in 26 per cent partial elimination was accomplished. There was little or no injury to grass or shrubbery.

Possible Sources of Pyrethrum Flowers in the United States

Acree, Schaffer and Haller (2) have investigated the pyrethrin content of fresh pyrethrum flowers. Gnadinger, Evans and Corl (30) had previously shown that the pyrethrins occur in the freshly picked flowers and that different methods of drying do not greatly affect the pyrethrin content of the flowers. These conclusions were confirmed by Acree, Schaffer and Haller, whose more comprehensive investigations also showed no appreciable difference in fresh flowers and the same flowers after drying, calculating the pyrethrin content to the moisture free basis. They concluded that enzymes and moisture have little effect on the synthesis or decomposition of the pyrethrins in the process of drying the flowers.

Drain (22) obtained good results in Tennessee with 4-8-4 (NPK) fertilizer, using about 400 pounds per acre. High nitrogen applications increased losses from disease and reduced blossom yields. Best yields were obtained with plants spaced 12 inches apart in the row, with 30 inches between rows; this spacing required 17,424 plants to the acre.

Jary (50) found that flowers harvested two years after the seed were planted contained 0.84 per cent pyrethrin I and 1.00 per cent pyrethrin II. With succeeding crops the pyrethrin content decreased until at the sixth harvest the flowers contained only 0.47 and 0.40 per cent of pyrethrins I and II respectively.

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Emulsion Floor Waxes

A discussion of the formula using triethanolamine oleate as the emulsifying agent, and changes suggested in the usual method.

By Charles S. Glickman

THE commercial preparation of water emulsion waxes does not involve any great difficulties provided certain basic principles are adhered to without any marked variations. Those basic principles, as most manufacturers are well aware, are the proper regulation of temperatures, correct weights of materials entering into the product, the type and speed of agitation, and last, but by no means the least important, the rate at which the water and alkaline solutions are added to the wax, oleic acid, or similar acid, and the triethanolamine or other alkali.

In the course of experience with production problems, the main difficulty encountered with one type of formula, which apparently seems to be the process used in at least eighty per cent of the plants making emulsion waxes today, is the addition of the borax solution and the water to the formula based upon the use of triethanolamine oleate and straight carnauba wax. This formula is to be found in the booklet of a well known chemical manufacturing firm. Aside from the difficulties encountered with the addition of the borax solution and the boiling water, there seems to be still another factor which is probably directly responsible for the difficulties encountered. That is the recommended operating temperature of only ninety degrees centigrade.

Of still further importance is the fact that there are as many different "set-ups" of equipment required for the successful manufacture of this type of colloidal preparation as there are plants making the product. With this last fact in mind, a plant set-up will be described which will tend to remove most operating difficulties and should be fool-proof even in the hands of a non-technically trained individual. This type of design embodies several new principles as well as some old ones which are combined for easier manipulation. Details are shown in a diagram herewith.

Standard specifications on the composition of rubless wax suspensions or water emulsion waxes generally contain a reference to a solids content of about twelve per cent. The standard formula which follows shows a solids content of twenty and one-tenth pounds in a total of 119.42 pounds, or 16.83 per cent. That means that a considerable amount of water can be added to the finished formula when a solids content of but twelve per cent is desired,—and at a saving of several cents per gallon as well. However it has been the author's experience that the presence of shellac in the product, except possibly to aid the shellac refiners in making a living, is of little value. If any ammonia is desirable in the finished product, it can be added anyway. The product when prepared without the use of shellac does not seem to be any more slippery, that is, if the purpose of including shellac was to produce a non-slip effect. The formula in its original state is—

	Pounds
Carnauba wax	13.2
Oleic acid	1.5
Triethanolamine	2.2
Borax	1.0
Water	99.0
Shellac	2.2
Ammonia	0.32
Total	119.42

If the shellac is deleted from the formula and the water content increased to bring the solids content down to 12 per cent the formula becomes—

	Pounds	
Carnauba wax	13.2	
Oleic acid	1.5	
Triethanolamine	2.2	
Borax	1.0	
Water	99.0	plus 32.21 lbs. additional
Total	149.11	

With this change in the original formula there is a gain of about four additional gallons of finished water wax at a saving of the cost of the shellac and the ammonia. With present market prices, the cost of the first formula is approximately forty-two cents per gallon if a cheap grade of wax is used. The cost per gallon of the adapted formula is approximately thirty cents, or a saving of about twelve cents per gallon.

In the original formula, the directions state that the wax be melted first and then the acid added and the mixture stirred. While there is no fault to be found with this procedure so far, the fact still remains that many plants are being operated with boilers that have not sufficient steam pressure to reduce the wax to a liquid state within a short time. Generally, it takes from one to two hours thoroughly to melt the wax. This time element

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can be reduced considerably if the acid is added together with the wax in the kettle, as the presence of a liquid will tend to reduce the melting point of the mixture as a whole with no variations either in the color or the gloss of the final product.

The original formula also states that the temperature of the wax mixture should at no time ever be above ninety degrees Centigrade. Since steam pressure, especially as we find it in small plants, is not sufficient, the general result of trying to operate at so low a temperature over the melting point of the wax is hazardous. It has been the author's experience that the temperature of the wax mixture should be kept as close to one hundred degrees as possible and, as will be shortly indicated in a certain stage of the process, even this temperature exceeded slightly. The maintenance of a higher temperature will also tend to reduce the amount of unsaponified wax that generally cakes on the sides of the kettle if the stated temperature of but ninety degrees is used. *Care must always be exercised that all the wax be treated alike with alkali and acid as well as borax to insure uniformity of dispersion.*

The triethanolamine should be added very slowly with agitation after the wax and oleic acid have thoroughly mixed. While this is still not a critical stage in the process, care should be exercised that *all* the triethanolamine intended for the wax solution be added. The high viscosity of triethanolamine often makes this a difficult task. One way of preventing any loss in alkali is to heat the triethanolamine in its container until it is very thin, and then the possibility of having any appreciable amount left is lessened. The container should then be rinsed with some of the borax solution, or if conditions prevent, then it should be rinsed with the water used for dilution after the addition of the borax solution. The rinsings should be added either to the borax solution, which is preferable, or to the boiling water. This addition of the alkali should be made very slowly with the agitator in full swing, and the solution after mixing should assume a *clear brown* color.

At this point a short discussion of wax, that is to say the grade of wax, should be of some interest. Peculiar as it may seem, the No. 2 and 3 North Country grades seem to give better results as regards particle size and fineness of dispersion than the best or No. 1 yellow grade. The average manufacturer seems to labor under the delusion that a dark wax will necessarily result in a dark color. While the finished product if prepared with the crudest grade of refined wax will not yield a pure white product, the color obtained is by no means objectionable as its appearance is light gray. Most of the commercial preparations are of this hue. It is furthermore necessary to heat the wax and acid prior to the addition of alkali to the point where most of the mechanically enclosed water is driven off. This appearance can be checked by the action of the wax upon heating. The heating should be continued until there is no more foam, or at least very little foam on the surface. This stage is important because the presence of water in the mixture prior to emulsification will *increase* the particle size with consequent loss of lustre.

THE first critical stage of the process in reached now and failure to observe carefully all the necessary conditions, makes the production of consistently good batches of water emulsion wax something that rests in the laps of whatever gods govern this type of product. The temperature of the wax mixture containing the acid and alkali is now raised to about one hundred and two or three degrees. The borax solution which should be boiling is added slowly in intermittent batches, if done by hand, or if added from another and smaller kettle should be permitted to flow in a very thin stream. The agitation must be continued and the temperature carefully controlled. The slight difference in temperatures between the borax solution and the wax mixture will insure adequate dispersion of the former in the latter. The borax solution virtually explodes itself into the wax mixture because of the difference in temperatures. The mixture at all times during the addition of the borax solution should not suddenly become a pasty yellow color. If for any reason such is the case, then the further addition of borax should cease, and the mixture stirred and heated until it becomes *clear brown* in color. Careful addition of borax will not however cause any failure in the preliminary emulsion to occur. The mixture after the addition of all the borax solution will undoubtedly have bubbles in it. It should be stirred until these bubbles have almost entirely disappeared.

The temperature which may have dropped several degrees during this last stage, should be carefully checked and if below one hundred or one hundred and two degrees should be permitted to rise again until this point is reached. The water heated to boiling is then allowed slowly to enter the wax and borax mixture. Agitation should be rapid and thorough and the color of the mixture in the kettle should remain clear brown. The mixture will gradually increase in viscosity and care should be taken that all additions of water are absorbed before further additions are made. When approximately sixty per cent of the total amount of water has been added, the appearance of the mixture suddenly changes and the clear brown and viscous mass suddenly seems to lose its viscosity and there now appear streaks of the clear brown mass in a milky solution. What actually occurs at this point is a matter which is open to considerable debate, but the writer's contention is that there is a change in phase from water-in-wax to wax-in-water and that appearance of clear brown streaks in a milky liquid is the point at which this change in phase takes place.

It would be well to note at this point that we deviate considerably from the original procedure by recommending that *all* the water required be heated to boiling and added to the hot wax mixture. There have been occasions when the emulsion has been broken by the addition of cold water to the semi-dispersed wax. Addition of all

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the water will therefore eliminate another obstacle in the way of consistently successful production. When all of the water has been added, the solution will assume a grayish fluorescent and translucent appearance. It should then be cooled and filtered before packaging.

NOW that all the salient details of the preparation of this type of water emulsion wax have been covered, we will describe a new type of equipment arrangement and design which was created primarily for the production of this type of product with a minimum of difficulty and with a maximum of success in operation. Advantage has been taken of several old principles with a view to eliminating certain difficulties which have been responsible for improper batches of this type of colloidal suspension. The equipment is pictured in the accompanying diagram.

The equipment consists of a system of three jacketed kettles of varying sizes, all connected on the same steam line. They must be of the type having a "draw-off" from the bottom. Although the actual structural erection of the kettles has been omitted from the diagram, the upper kettles should be placed upon an accessible balcony over the main kettle.

The bottom or main kettle should also be above the floor level as it is necessary that the contents of the kettle be drawn off through the bottom. The two upper kettles should be jacketed ones and connected with the steam line in series with one another. They should both have available cold water inlets from the cold water line as shown in the diagram and these inlets properly fitted with suitable valves. These inlets are for the purpose of filling the kettles with the appropriate amounts of cold water when necessary,—that is, with the exception of the hot water kettle which has connected to it a steam outlet escaping into the kettle contents and opening below the surface of the water level. This additional steam connection is used for a preliminary heating of the water and the use of live steam for this purpose makes for easier operation.

It is unwise to use open steam in an unjacketed kettle as there is no means of telling what the contents of the kettle will be when the water has reached the boiling point unless one goes to the trouble of heating the water up and then draining off the excess. Proper operation of an open steam line in conjunction with a jacketed kettle should be as follows:—approximately three-quarters of the total amount of water, cold of course, should be admitted to the kettle and then the steam admitted. When the water has reached approximately eighty or eighty-five degrees centigrade the steam should be cut off and the remaining heating done by means of the jacket providing of course that the requisite amount of water is already present. One or two batches at the most will suffice in helping decide what amount it is preferable to place in the kettle at the beginning.

The borax kettle should be filled with weight for weight of water equal to the amount of borax to be used and all heating done with steam, or if feasible the hot water kettle should be placed slightly above the borax kettle so that hot water may be drawn from it into the borax kettle. Neither of these two kettles need be equipped with stirring equipment. What is required however is a suitable outlet leading from the draw-off of each of the two upper kettles and this draw-off pipe in either case should be of approximately one-half inch internal diameter. The reason for this small internal diameter is to prevent the flow of either the water or the borax solution from being too rapid when they are added to the wax mixture. Each should be equipped with suitable valves for adequate control over the rate of flow. These outlet pipes for the admission of water and borax should extend vertically downwards to the bottom of the main or wax kettle thereby permitting the escaping liquid to undergo sufficient contact with the melted wax mixture. The stirrer indicated in the diagram should be placed either vertically in the kettle or at an angle satisfactory for proper agitation. If possible, the borax inlet pipe extending into the kettle may be capped and a series of small holes drilled in both the cap and that part of the inlet projecting beneath the wax surface. The presence of a number of small holes in the end of the borax inlet will make for finer distribution of the alkali in the wax solution.

The main or wax kettle should also be jacketed and equipped as it was stated before with a high speed propeller type agitator preferably of a speed of twelve hundred revolutions per minute or over and with dual propellers so placed upon the shaft as to be as close to the water and borax outlets as is safely possible. It will be further noticed that the main kettle is fitted with a T-shaped coupling at the inlet and outlet points of the jacket. This is for the admission of cold water into the jacket if for any purpose it is necessary rapidly to reduce the temperature of the contents of the kettle. Each arm of the "T" is fitted with suitable valves for either admitting the steam or water or both at the same time if necessary. It will be noticed that both the inlets of the steam and cold water lines are at the same point.

While the purpose of having a supply of cold water available for cooling the contents of the wax kettle is a dual one, only one phase of the purpose will be discussed here. In the event that the wax mixture prior to the addition of the borax solution becomes too hot, then its temperature can be controlled by means of the cold water. It would be necessary first of all to close the steam entry and outlet valves so as to prevent water from entering the steam lines, providing of course that there was no interference from the steam pressure to prevent this.

WHAT seems to be another difficulty that is usually encountered in the average plant is the determination of the temperature in any and all of the various kettles employed in the manufacturing process. We have yet to see a kettle equipped with a proper temperature

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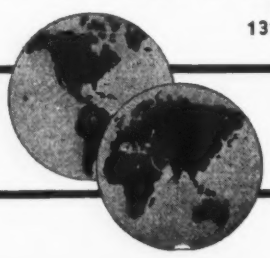

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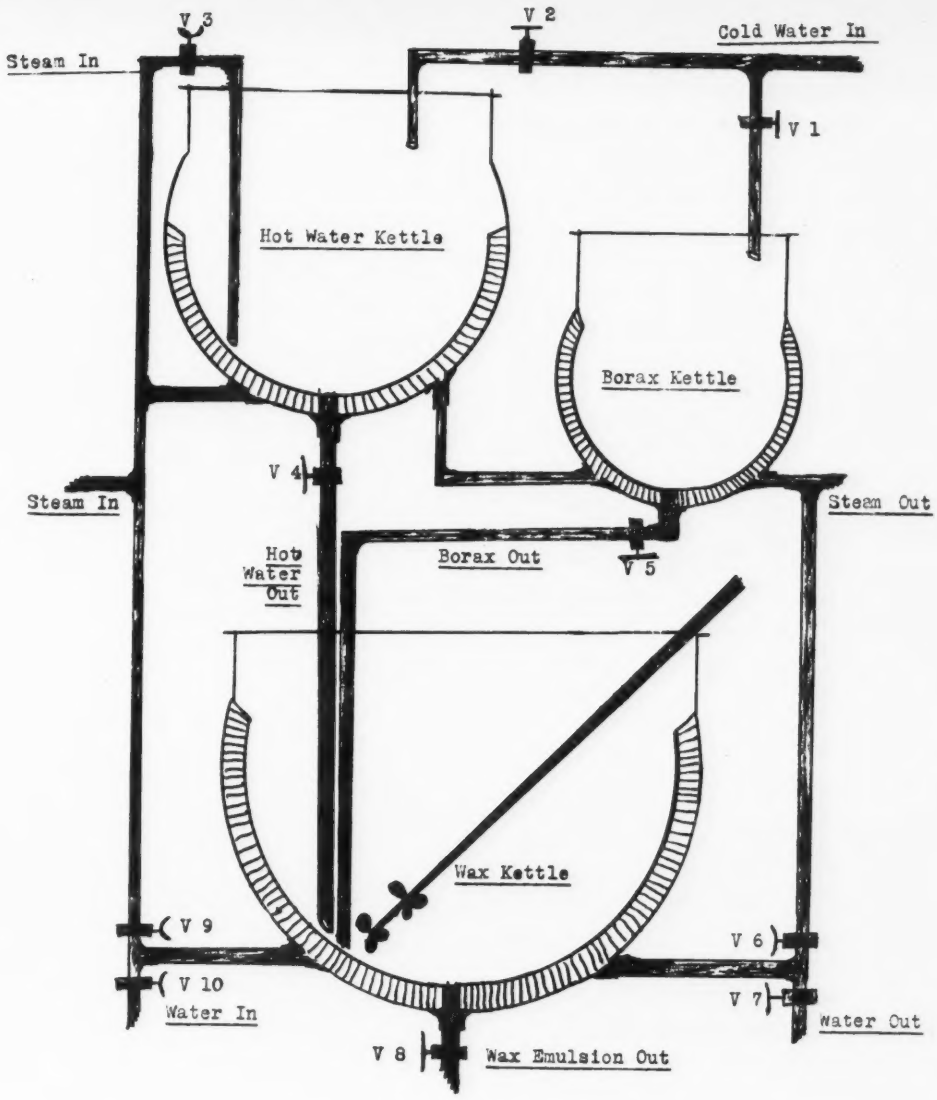
Diagram 1.



device which will permit instant determination without scorched fingers and arms. What would probably be the best means of overcoming this important difficulty would be the use of either long stemmed varnish type thermometers or the side-arm type which could be fitted through the side of the kettle above the jacketing area. Comparison of a device of this type with the use of a standard type thermometer which is bravely dipped for an instant into the hot mixture and then rapidly withdrawn or else let dangle in the mixture at the end of a length of string or wire, leaves no room for any doubt as to what method is less painful and more desirable. In fact, it is necessary that all three kettles be so equipped.

The size of the kettles required for the regular preparation of batches ranging from twenty-five gallons to one hundred gallons at a time will be found in the following table—

Amount of Batch	Borax Kettle	Water Kettle	Wax Kettle
25 gal.	2 gal.	25 gal.	35 gal.
50 gal.	2 gal.	50 gal.	75 gal.
75 gal.	2 gal.	75 gal.	100 gal.
100 gal.	4 gal.	100 gal.	150 gal.

In numerous cases where steam plants consist of the ordinary type of steam boiler such as is used for the heating of homes and very small business establishments, and these steam plants are used as a source of heat for several kettles, the following table indicates the theoretical temperature of saturated steam, both Fahrenheit and

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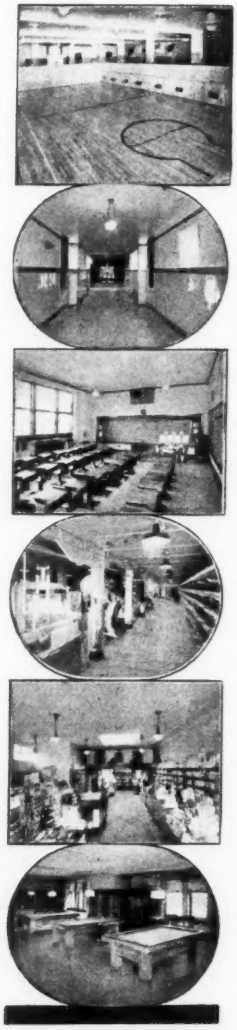

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20	125	258

This table holds true providing there is no loss by radiation of heat or condensation in the line between the boiler and the kettles. As such a drop usually occurs the resulting temperatures attained by the jacketed kettle are much lower.

What seems to be the most practical source of heat for this type of equipment is the small gas-fired boiler that goes as high as one hundred or one hundred and fifty pounds pressure. It can usually be situated in close proximity to the kettles due to their compactness. Its ease of operation, usually automatic, and rapid production of a high pressure make it of extreme interest.

The following table indicates the amounts of wax, acid, borax, triethanolamine and water needed for the production of batches of water wax ranging from twenty-five gallons approximately to one hundred gallons in quantity. Following this table will be the description of the preparation of a batch of approximately fifty gallons on an equipment set-up such as was described and indicated in the previous diagram.

Amount of Batch	Wax (lbs.)	Acid (lbs.)	Tri'amine (lbs.)	Borax (lbs.)	Water (gals.)
25	19.8	2.25	3.3	1.5	23.63
50	39.6	4.5	6.6	3.0	47.26
75	59.4	6.75	9.9	4.5	70.89
100	79.2	9.0	13.2	6.0	94.52

FOR the preparation of a fifty gallon batch, approximately, of water emulsion wax by the process described and illustrated, exactly thirty-nine and six-tenths pounds of wax should be weighed out and placed in the wax kettle together with exactly four and one-half pounds of oleic acid, and the steam turned on by means of valve No. 9. Valves Nos. 4, 5, 7, 8, 10, and 3 should be kept closed. In other words, only the steam valves to the kettles are opened. The borax kettle should be filled with three pounds or pints of water and three pounds of borax weighed out carefully and placed inside to dissolve. About forty gallons of cold water should be admitted into the water kettle by means of Valve No. 2 and then the open steam line permitted to bubble slowly through the water by means of opening slightly Valve No. 3.

In the meantime, exactly six and six-tenths pounds of triethanolamine are weighed out in a small container and heated until quite liquid. When the water in the water kettle has reached about eighty degrees C., the steam should be closed by means of Valve No. 3 and the balance of the heating done by means of the jacket. If the water is not sufficient as is indicated by a point previously determined and so marked on the inner surface of the kettle, sufficient water should then be added to bring the total up to this mark. In the meantime if the wax and acid mixture have become *entirely liquid*, and the proper temperature reached, the agitator should be turned on and the hot triethanolamine slowly added. The solution at this point should show a clear brown color. The temperature of the wax mixture containing the acid and triethanolamine should be permitted to rise to about one hundred and one or two degrees C. If it rises higher before the borax solution has boiled, then it can be cooled to the proper temperature by closing Valves Nos. 6 and 9 and opening Valves Nos. 10 and 7 till the temperature has dropped sufficiently. The steam valves can then be opened after the cold water valves are closed.

If the borax solution has reached the boiling point by this time, then Valve No. 5 can be opened slightly and the borax solution admitted slowly till it is entirely absorbed. The mixture during the addition of the borax solution should at no time ever become a pasty yellow or tan color, but should at all times be clear brown and viscous in appearance. Following the addition of all of the borax solution and after making sure that the temperature of the wax and borax solution is not below one hundred degrees C., Valve No. 4 should be slowly opened so as to admit a steady but very slow stream of *boiling* water. The wax mixture should absorb this water without any separation or alteration in color but with an increase in viscosity. If at any time, the mixture shows a tendency to separate, the further addition of boiling water should be halted and the stirring and heat continued till the mixture assumes the proper appearance. If the mixture fails to attain the proper appearance, then the addition of a small additional amount of triethanolamine will remedy the fault which is probably due to a mistake in the weight of alkali. The addition of boiling water should then be continued.

When approximately sixty per cent of the boiling water has been introduced into the wax kettle, there is a sudden change in viscosity and appearance. The solution instead of being very viscous becomes thin and the clear brown jelly-like mass seems to be dissolving in a milky solution. The addition of water should then be continued until all the water has been used. The solution which by that time has a considerable foam over its surface is stirred for some five or ten minutes more and then the steam closed by means of Valves Nos. 9 and 6. The batch is then ready for the final stage which if properly handled will result in a product of greater gloss and finer appearance.

Experiments have shown that the rapid cooling of colloidal suspensions tend to reduce the particle size. This principle while not true for all colloidal suspensions seems to hold for preparations of this type. With the steam valves closed, Valves Nos. 10 and 7 are slowly opened introducing a flow of cold water into the jacket of the kettle holding the batch. The agitation is continued and the amount of water slowly increased till the solution has become cold. This rapid cooling, aside from

(*Turn to Page* 139)

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A plea for the introduction of practical entomology in exterminating methods, and for the training of operators

By J. J. Davis*

Chief in Entomology, Purdue University

AN invitation to meet with you and discuss matters of mutual interest was accepted by me, not with the idea of telling you how you should conduct your operations or to give you new or better ways of attacking the pest problems, but rather because I am interested in the development of your business and in the elimination of the obvious "racket" that now exists too generally, to the end that the business of pest extermination may become a profession of high standing in every community. Furthermore, I accept your assignment believing that my thirty years in the field of entomology, which has included nearly every type of insect work, might enable me to offer suggestions and ideas which may lead in the direction of what I believe to be the goal of the reputable exterminator and fumigator.

But before discussing the goal of your business, perhaps I should answer a question that may be in your minds, namely, "why am I interested in the welfare and perfection of your industry?" Frankly, my motives are largely selfish. Entomology is a science of highest standing among the professions and every trained entomologist jealously guards this rating. The business of the pest exterminator is principally entomological, and the reputation, good or bad, which comes to you is reflected directly on the profession of entomology. I believe I am safe in saying that entomologists in general can and will be glad to cooperate and assist you as I shall bring out later.

Perhaps first we should decide our goal, that is, the goal of the business of pest extermination. As I see it, the ultimate goal should be the elimination of unethical and worthless concerns and untrained men; the standardization of the pest extermination industry which above all requires integrity, honesty, ability and efficiency; and with a resulting profession which will command the respect of the people and provide financial returns to operator and employer alike, commensurate with the high services rendered.

The attainment of this rather pretentious goal is certainly not possible by any short cut nor by any speedy process. It will require a carefully planned program with equally careful execution.

You have already taken the first step towards your goal through the organization of the National Association of Exterminators and Fumigators, which even at the age of four years is doing a tremendously valuable work for the industry. Through your national organization you are functioning effectively in your goal towards such matters as business ethics and legislation. While it is obvious that state legislation is much needed and if properly developed will be a great aid to the reliable operator, we must not expect mere legal barriers or codes of ethics in themselves to answer the question. After all, public opinion is more powerful than legal statutes or organization codes, especially as they apply to pest extermination legislation. In this connection may we voice our opinion against city legislation, except perhaps where state legislation has not been enacted or where not properly enforced. Too often city ordinances are inadequate and are biased or dominated by trade "politics," and, therefore, in general city regulations are objectionable.

You have an association which is not merely an organization of persons having similar interests but one which is functioning effectively in other ways than those just mentioned. Above all you have made progress towards your goal by the programs presented and I wish especially to compliment those in charge of the program this year for providing, for the first time, a series of "clinics." With proper direction these are bound to be of very great value to those who attend and I trust you will continue these clinics and enlarge upon them from year to year. Personally, I look forward to attending these clinics.

What I have just said applies to things that can be done by your organization and through public opinion to aid in attaining your goal. Perhaps by far the most valuable "goal aids," however, are those possessed and utilized by the individual and of these aids the one most essential for the success of the profession, as well as for the success of the individual, is education and with it the practical use of knowledge.

And again I am going to ask your indulgence in presuming that I may be able to suggest adequately the knowledge essential for efficient pest expermination service. To preface my discussion, may I quote the words of a well-known entomologist, as follows: "We trained entomologists must not belittle the experience and adaptability of many of the men who are in the exterminating and fumigating work who have proved themselves very

* Paper before the Natl. Assn. of Exterminators & Fumigators, Cleveland, Oct. 27, 1936.

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adaptable and very efficient in many difficult jobs. I question very much whether a large proportion of our so-called trained entomologists, members of our National Association, could accept a contract to effectively fumigate and treat a large hotel of 500 rooms, or large office building with many rooms and possible storerooms, doing the work in such a way and at such a time that business would be interfered with only slightly for a brief period. As I have looked into the operations of some of the better exterminators and fumigators I have been pleased at the completeness of the job which some of them have performed effectively under difficult situations. We should give the better class of exterminators all praise for good work done, ofttimes under difficult conditions."

Undoubtedly this is a true statement of facts, and yet the entomologist undoubtedly can give technical advice which the commercial exterminator needs in his business. But even with the consultation services of this highly specialized technician available, *every* pest exterminator should have a fairly good understanding of entomology such as only a *few* possess. And what, you will ask, is the essential information on insects and insect control needed by the pest exterminator?

For the majority of insect problems there is no stereotyped procedure. The skilled operator will vary the details of his treatment according to the specific situation at hand. In other words, he must understand insects and the existing conditions for each situation. Among other things, he must know why he is using this or that material, why he applies it this or that way and why he should do any one of a variety of operations for the situation at hand. Furthermore, ability on the part of the exterminator to intelligently discuss insects in general, provides a confidence which is far more essential to success than generally appreciated. In other words, a broad, general knowledge of insects, aside from those of specific significance to the "pest exterminator," is an asset which cannot be overestimated.

To know and understand the "whys" of the material and method of operation, therefore, the operator must understand first the procedure in developing a control and second the technical facts upon which the procedure is based. Thus, you will learn that there are three steps in insect control, just the same as there are three steps of progress in the practice of medicine, or any other remedial profession for that matter. Briefly, these may be outlined as follows:

1. Diagnosis or determining the cause of the trouble. To diagnose a trouble requires a knowledge of the insect and its work. The general entomologist must be able to recognize or identify thousands of insects and their injury but such extensive knowledge is not essential to the pest exterminator, although he should know the innoxious insects occurring in or about the home as well as the noxious forms, and as already indicated, the broader his knowledge of insects and his ability to discuss general entomological problems, the more confidence will he have from his clientele.

2. Prescription or remedy. Having determined the cause, the next procedure is to determine the remedy. Every insect control is based on our knowledge of the life history, habits and structures of the insect in question. This includes not only an understanding or the activities of the insect under normal conditions, but how they act under a variety of conditions which may occur. Many question the activity of research entomologists in studying the minute details in the life history and habits of this or that insect. To be sure, much, if not most, of the information obtained in such detailed studies is never of use in the development of controls and yet the experimentor can never tell until after he has made such detailed studies just what point or detail in the life history and habits may be the weak point or fact needed to provide the information leading to a practical control.

3. Application. The third step is the application of the remedy which in many respects is more important than the diagnosis or prescription. The technical or consulting entomologist, such as the experiment station entomologist, may diagnose an insect trouble and recommend a control, advising as to the material and method of application, but it is up to the individual to apply it according to directions. In the case of the pest exterminator, the application is the major service he provides and the effectiveness of the treatment usually depends on the method and thoroughness of application. In the final analysis the success of the commercial pest exterminator depends on the operator, and the "racket" which now permeates the field of the pest exterminator and fumigator can probably be traced in most cases to the employment of cheap labor for jobs which is suited only to well trained and well paid operators. Cheap competitive labor will never raise your business to a profession and until the industry eliminates cheap and inexperienced operators for well paid and experienced men, we can expect the "racket" to flourish. The use of experienced, well trained, honest men in all lines of pest extermination is, in my opinion, paramount to the future of your business and the attainment of your goal. Of course, we must not lose sight of the fact that good materials are essential and that there are no short cuts in the control operations, that is, sufficient time must be given to any operation to insure a good piece of control work.

In a very brief way I have tried to give you my idea of some of the things needed to improve the standing and usefulness of your industry. I say usefulness because there is no question in my mind that the people need and welcome reliable pest exterminators. There is a potential field for many more pest exterminators than are now available but this potential field will not open up as long as the industry continues to tolerate such a large percentage of unreliable operators. But getting back to the question as to how you may acquire the education which I have indicated as one of the drawbacks in the exterminator's field. Commenting on the situation one prominent commercial entomologist writes: "The weak point, it appears to me, with many of our

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commercial exterminators is their lack of fundamental knowledge of the nature, character and life history of the insects which they are fighting. Too often with the untrained exterminator ineffective methods and materials are employed, perhaps ameliorating the situation for the time being but without definite and ultimate benefit." In addition to an understanding of the insects the exterminator should also have a good understanding of chemistry and in many cases, especially in the case of termite control, a good understanding of the construction of buildings.

Perhaps it is premature to advocate a full four-year college course for commercial exterminators and yet there would appear to be just as much reason for such a course as for courses in commercial floriculture, fruit growing or a half dozen or more similar courses, such as are being taught in many universities.

Certainly it is timely for institutions with entomological facilities to consider the needs of such groups as pest exterminators by providing short courses of a few days or a few weeks in length. Although there are only a few commercial exterminators in Indiana, we have received requests for a short course and it is not unlikely that a course of a few days will be provided this year or in the near future. For such a short "short course" it would not be possible to deal extensively with handling individual household insect problems but rather to provide the fundamentals of insect life and the relation to control, together with a good understanding of insecticides, particularly those of use to the pest exterminator.

And finally, the commercial exterminator should realize that he has a valuable source of information through the Bureau of Entomology of the United States Department of Agriculture and the Department of Entomology of the State Agricultural Experiment Stations. I am sure I am expressing the thought of every official federal and state entomologist when I say that they are always glad to offer helpful suggestions to the exterminator when he encounters a tough insect problem. Furthermore, the large and reputable manufacturers of insecticides have entomologists who are willing to cooperate with and aid the reputable pest exterminators. I believe the up-to-date experimentor should keep in touch with those publications which are continually publishing papers having a direct bearing on your work. I would include such serial publications as *Soap*, and the *Journal of Economic Entomology*.

In closing I should like to offer additional suggestions to your National organization. First, it is obvious that one of the great needs of the industry is a thorough investigation of the insect problems which are confronting you. Comparatively little attention has been given these subjects by the researcher, because there has been little demand from the industry. The opportunities in this field of research are great. However, all research organizations are continually receiving demands for research in this or that field. Unless your needs are made known to federal and state research agencies and substantial demands made, you cannot expect far-reaching results. Your own association has an opportunity to provide fellowships for research in your field and furthermore you have opportunities in securing the cooperation of manufacturers of insecticides in promoting research fellowships for a study of domestic pests. Your organization has a further opportunity and duty in ferreting out transient exterminators which are becoming an increasing menace to you individually and to the industry as a whole. And finally I believe you should approach the American Association of Economic Entomologists, an organization of nearly 1500 entomologists, in an effort to secure their cooperation and support on questions of remedies, legislation and the like. I feel sure that a joint committee of the two national organizations would find much of common interest and that it would develop into a coordinating body which could benefit both groups.

Pyrethrum

(*From Page* 120)

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Emulsion Floor Waxes

(From Page 129)

increasing the gloss and adding to the general appearance of the product, also tends to remove an important difficulty. Generally when a batch was finished, it was allowed to cool overnight or else the stirring was continued for several hours until the batch cooled. If the batch stood over night, it developed a heavy, solid film of wax on its surface which either had to be redissolved with the aid of heat and agitation, or if the stirring was continued, a considerable expense as regards electric current was incurred. Forced cooling eliminates both of these difficulties and permits more rapid handling with a consequent saving of time.

In closing the author wishes to state that the easiest way to obtain consistently good results is to observe all the requirements and make no deviations or changes from accepted practice until the change has been thoroughly investigated and tested several times in the laboratory before attempting a batch.

Pyrethrum Crop Larger

The 1936 Japanese pyrethrum flower crop totaled 27,752,800 pounds as compared with 24,400,000 in 1935 according to a late U. S. Dept. of Commerce report. Advance estimates of 1936 yield made in July indicated an output of 29,500,000 to 29,800,000 pounds. The third report of the All Hokkaido Insect Flower Merchants' Association placed 1936 production in Hokkaido at 9,680,000 pounds as compared with 11,660,000 in 1935. In June it was estimated that the yield would approximate 1935 levels, but it became increasingly clear at harvest time that the cold spring had injured the roots, cutting the growth of the flowers. It is said that the fine weather during the drying season in Hokkaido has insured a crop of higher quality than 1935.

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NEWS . . . . . .

Move A. S. Boyle Plant

The plant of A. S. Boyle Co., manufacturers of wax products, has been moved from Cincinnati to Jersey City, N. J. The new location is at 257 Cornelison Ave., Jersey City, where a six-story building including approximately 250,000 square feet of floor space will be occupied. Offices are maintained in New York City.

Roach Delays Ocean Liner

The liner *President Hayes* was ready to sail from San Francisco recently when Boatswain R. E. Pitcher, claiming cockroaches had chewed a hole in his new suit, blamed the owner and demanded $27.50. With passengers waiting, Edward Fitzgerald, federal conciliator in the maritime labor dispute, hurried to the ship, and settled the argument by paying Pitcher himself. He then resold him the suit for $5.00.

Rolstead with Rohm & Haas

Marvin Rolstead who has been associated with the New York office of McLaughlin, Gormley, King Co. of Minneapolis, has joined the sales staff of the Rohm & Haas Co., Philadelphia. Mr. Rolstead who was with M-G-K for the past eight years will have charge of the sale of Lethane and other insecticide materials for Rohm & Haas in the Metropolitan New York area, New Jersey, and parts of Pennsylvania.

New Sanitary Supply Firm

Cleaning Materials Co., 1413 Race St., Cincinnati, has been organized by D. C. Mervis, head of Cleaning Materials and Chemical Co., Pittsburgh, and Leslie Webb, of Hunnewell Soap Co., Cincinnati, who are president and treasurer respectively. The firm will handle a complete line of soaps, sanitary products and sanitary accessories, featuring lines similar to those offered by the Pittsburgh concern. Harvey Phillips is managing the new company.

New Johnson Office

S. C. Johnson & Son, Inc., Racine, Wis., manufacturers of floor wax and other products, have moved T. J. Jones from Atlanta to Tampa, Florida, to establish a district office. The Florida territory formerly was served from Atlanta.

Enjoin Use of "Evr-Gro"

An injunction has been obtained by McLaughlin Gormley King Co., Minneapolis, restraining Midwest Chemical Co., Milwaukee, from manufacturing and selling a product under the name "Evr-Gro" M. G. K. market an agricultural spray under the name "Ever-Green," labels for which are said to have been copied by Midwest Chemical Co. The injunction is a temporary one, pending the outcome of a suit for damages.

Koppers Name Change

The Koppers Co.—Tar and Chemical Division, Pittsburgh, is now handling the sale and distribution of all products formerly handled by Koppers Products Co., with the same management and personnel. This change was effective Nov. 1.

Clifton Opens New Offices

Clifton Chemical Co., New York, has recently announced the opening of the following offices: 2306 Fuller St., Philadelphia, with J. J. Cram as manager; 164 Intervale St., Roxbury, Mass., with A. D. Seidler, manager; 307 W. Sycamore St., Greensboro, N. C., of which R. Hudson is manager; 39 N. 8th St., Lemoyne, Pa., with L. Rounsley, manager; 58 Federal St., San Francisco, with W. P. Horn, manager; 111 Lamar Court, Selma, Ala., with M. Wahn, manager; and 624 St. Clair Ave., Cleveland, of which S. A. George is manager.

New Clix Products

Several new "Clix" products have been introduced recently by Animal Supply Corp. of America, Brooklyn. These products are "Clix" worm capsules, tape worm pills, pine oil disinfectant and ear canker medicine. Pacific Coast distributors for the entire Clix line are O'Brien Co., Hollywood and Wm. J. Lindenberger, San Francisco.

To Review Ad Copy

Dr. George F. Reddish, chief bacteriologist for Lambert Pharmacal Co., St. Louis, presided at a recent meeting of the scientific section of the Proprietary Association which dealt with advertising copy for medicines embodying therapeutic claims. Every manufacturer of such products will be asked by the Proprietary Association to set up a board of review to scrutinize his company's advertising copy.

Trisco Chemical Moves

Trisco Chemical Co., Detroit, a newly organized partnership, has moved from 2679 E. Grand Blvd. to 6038-40 Hastings Street. The owners of company, which is about to put out a disinfectant soap for undertakers, are A. W. Trippensee and H. S. Bennet. The company has just put on the market a deodorant with unusual properties to be used by undertaking establishments.

Hercules Official Dies

James T. Skelly, vice-president and director of Hercules Powder Co., Wilmington, died in Wilmington recently after a short illness. He had occupied numerous executive positions during his many years of service with the company, and at the time of his death was chairman of the finance committee and a member of the executive committee.

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Form Crestolite Co.

Crestolite Co., Highland Park, Mich., has just been organized to manufacture insecticides, deodorants, and floor wax. The new company has the same personnel as Crest Products Co., Detroit, which recently went out of business.

Para Held Best Mothicide

Paradichlorbenzene is held to be more effective than naphthalene, and much more effective than camphor, in killing moths both in the larval and adult stages. Weigelt. *Seifensieder-Ztg.* **63,** 608-9 (1936).

Dow Opens Chicago Office

Dow Chemical Co., Midland, Mich., has opened a Chicago sales office at 135 S. La Salle St. Wilson Doan, for several years in charge of the firm's office at St. Louis, is the Chicago manager.

Zonite Reports Gain

Zonite Products Corp., New York, reported a net profit of $80,748 for the nine months ended September 30, 1936, as contrasted with a net loss of $448,972 for the same period last year. This profit is equivalent to 9 cents per share on 830,066 shares of $1 par capital stock. A net profit of $87,762, equal to 10 cents a share, was reported for the quarter ended Sept. 30, contrasted with a net loss of $30,914 in the preceding quarter. A net profit of $54,691 was reported for the third quarter of 1935.

New Johnson Building

S. C. Johnson & Son, Racine, Wis., manufacturers of paint products and waxes, are planning to erect an office building of orange brick, without any windows. The structure is to have glass floors and will be equipped with indirect lighting and air conditioning.

Philpott in New Post

Douglas Philpott has just become director of advertising and merchandising for Lehn & Fink, Ltd., Toronto, having resigned from A. McKim, Ltd., Toronto. Mr. Philpott has also been connected with McConnell, Baxter and Eastman, Ltd., Toronto.

Selig on Governor's Staff

It is now Lieutenant-Colonel Simon Selig! Simon Selig, president of the Selig Company, Atlanta,

S. S. Selig

Ga., and a member of the Board of Governors of the National Association of Insecticide & Disinfectant Manufacturers, has been appointed a member of the military staff of Governor-elect E. D. Rivers of Georgia with the rank of Lieutenant-Colonel. Mr. Selig has been selected along with a dozen prominent Atlantans to serve during the term of office of Governor-elect Rivers. Mr. Selig, who has been prominent in the sanitary supply business for the past twenty-five years, is also a director of two Atlanta banks.

Lehn & Fink Net Up

For the nine months ended Sept. 30, Lehn & Fink Products Corp. and subsidiaries reported a net profit of $453,343, compared with $204,055 for the same period last year. The 1936 nine-month net equals $1.13 a share on 400,000 shares of $5 par capital stock, compared with 51 cents a share in 1935.

Leather Polishes

Gay Products Co., Memphis, has recently begun manufacturing a line of polishes for all types of leathers and cloths.

Sanitary Supply Firm

General Soap Co., 19699 Andover Ave., Detroit, has just been organized by Carle Lieberman. The new company will act as jobber for and will also manufacture a general line of liquid soaps, cleaners, deodorants, and the like.

New Garnet Price List

Garnet Chemical Corp., Allentown, Pa., has just issued a new price list and catalog illustrating its line of soap dispensers, drip machines and deodorizing block holders.

McK & R Profits Up

Net profit of McKesson & Robbins, Inc., New York, for the nine months ended September 30 were $2,148,198, comparing with $1,167,985 for the first nine months of 1935.

Making Diglycol Laurate

The Beacon Company, Boston, is now manufacturing diglycol laurate, a lauric acid derivative designed for numerous uses in the soap and detergent fields. The product, it is stated, is suitable for use in soaps, shampoos, and detergent specialties. In shampoos, it can be used for increasing the lathering powers of the product. It is also offered in several ways as a replacement for sulfonated oils. Its uses are extended in various directions by the fact that it has a low pH value. The Beacon Company is located at 89 Bickford St., Boston.

Lambert Earnings Lower

Lambert Pharmacal Co., St. Louis, reported a consolidated net profit of $456,536 for the quarter ending Sept. 30, 1936, equivalent to 61 cents a share on 746,371 no-par shares of capital stock. This shows a decline of $36,597 as compared with net profit for same quarter of 1935, and a gain of $270,923 over the preceding quarter. A net profit of $1,023,035 was reported for the nine months ending Sept. 30, equal to $1.37 a share, compared with $1,313,548 equal to $1.76 a share for the same period in 1935.

STAINLESS DEATH

Atlantic Ultrasene

—A BETTER BASE FOR BETTER INSECTICIDES

A KEROSENE-BASE insecticide would have killed this fly. But it would have left a thin film of oil, a disagreeable odor, on the surface it sprayed. The fly's death would not have been stainless.

Such is not the case when Atlantic Ultrasene is the insecticide base. This highly refined Atlantic Petroleum Product is prepared especially for use as a carrier for insect killers. Uniform, it evaporates quickly—leaves no oily residue, no disagreeable odor. Is it any wonder, then, that proprietors of markets, restaurants, hotels—in short, of places where food is stored or prepared—are insisting upon it? Is it any wonder that successful insecticide manufacturers are choosing Ultrasene for their spray-base?

Make Atlantic Ultrasene your choice too. Write us today for further information and liberal experimental samples. Our technical department is always ready to help you with your problems. The Atlantic Refining Company, Specialty Sales Department, 260 South Broad Street, Philadelphia, Pennsylvania.

ATLANTIC ULTRASENE

THE BEST SOURCE OF SUPPLY

KOPPERS

DEPENDABLE · UNIFORM

plus

CONSULTATION SERVICE FOR YOUR CHEMISTS

MANY of the processes employed in the refining of coal tar products have been developed by the Koppers companies. A competent technical staff is constantly at work to introduce further process refinements and to insure the high quality of all Koppers products. The Koppers laboratories are abreast of all new developments in the field of coal tar products. Their services are at your command.

TAR ACIDS

CRESOL, U. S. P.

PHENOLS

CRESYLIC ACID

98% to 100% STRAW COLOR

TAR ACID OILS

NEUTRAL HYDROCARBON OIL

(For construction and maintenance, Koppers also produces: Roofing, Waterproofing, Dampproofing, Creosote, Tar Base Paints and Coatings, and Tarmac for driveways, roads, pavements, etc.)

KOPPERS COMPANY
TAR AND CHEMICAL DIVISION
KOPPERS BUILDING, PITTSBURGH, PA.

Offices: New York, Boston, Providence, Chicago, Birmingham

Plants:
Birmingham, Ala.; Buffalo, N. Y.; Chicago, Ill.; Follansbee, W. Va.; Fort Wayne, Ind.; Hamilton, O.; Kearny, N. J.; Milwaukee, Wis.; New Haven, Conn.; Providence, R. I.; St. Paul Minn.; St. Louis, Mo.; Swedeland, Pa.; Utica, N. Y.; Youngstown, O.

Rotenone on House Flies

Rotenone was found to be 5-6 times more effective in three days after treatment against house flies than a pyrethrin preparation containing equal proportions of pyrethrins I and II. Mixtures of equal parts by volume of the rotenone and pyrethrin solutions produced no striking synergistic effects, but they were significantly more effective than expected. Richard H. LePelley and W. N. Sullivan. *J. Econ. Entomol.* **29,** 791-7 (1936).

Derris on Mosquito Larvae

Mosquito larvae succumbed more readily to optically active dihydrodeguelin and isorotenone than to the corresponding optically inactive compounds. The hitherto unaccountable toxicity of derris extracts can probably be attributed partly to the optically active deguelin present. David E. Fink and H. L. Haller. *J. Econ. Entomol.* **29,** 594-7 (1936).

Derris Extractives

Different varieties of derris yield a number of crystalline derivatives. Only one, rotenone, is highly toxic to insects. The others appear to be either altered in the process of extraction, or derived from precursors of greater insecticidal power. Direct insecticidal tests showed that no single method, including the estimation of the dehydo-compounds derived from the resins by suitable oxidation and dehydration processes, truly assessed the relative potencies of three varieties of derris root. Chemical work shows that the toxicity of the resins is determined not only by rotenone, but by the precursors of deguelin and toxicarol. *Chem. Trade J. & Chem. Engineer.* **99,** 300 (1936).

Benzylphenol Disinfectants

Benzylphenols are high-coefficient germicides effective against most types of microörganisms. When solubilized by admixture with sulfonated oil, germicidal activity is decreased by the presence of the latter. The decrease is directly proportional to the quantity of sulfonated oil present, giving straight-line curves. The rate at which the activity is decreased is different for different compounds and seems to be connected with the solubility of the compounds. T. S. Carswell and J. A. Doubly. *Ind. Chem. Chem.* **28,** 1276-8 (1936).

Toxicity of Pyrethrum

Analysis of pyrethrum flowers from various sources shows that Japanese flowers test highest in toxic content. Dalmatian flowers contain about 50 per cent as much. Kenya flowers have the highest content of pyrethrins. *Chrysanthemum roseum* flowers, mostly from Russia, assay lowest in pyrethrin content. David G. Hoyer and M. D. Leonard. *J. Econ. Entomol.* **29,** 605-6 (1936).

Continental Can Appoints

L. J. La Cava and E. J. O'Connor have been appointed assistant general managers of sales in the general line division by Continental Can Co., New York. Appointment to positions as assistant general managers of sales of E. S. Linville and James F. Cole have also been announced by F. Gladden Searle, vice-president in charge of sales for Continental Can Co.

Exterminators Move

General Exterminating Co., Miami, has moved to 2207 N. E. 2nd Ave. from 1341 N. E. 2nd Ave.

Mothproofing Firm Moves

Immune Mothproofing Co., formerly at 13530 Steel St., Detroit, is now located at 15042 Prevost St.

Cross With National Can

Jack M. Cross, formerly with Continental Can Co., has recently been appointed manager of the planning and development department of National Can Co., with James M. Hoyt as his assistant. Mr. Cross has been active in the container development field for the past ten years.

Lauryl Ester Insecticide

A parasiticide contains as an active ingredient a substance selected from the group of substances consisting of lauryl alcohol, lauryl esters and lauryl amines. Canadian Industries, Ltd. Canadian Patent No. 361,229.

Pepsodent Patents

Pepsodent Co., Chicago, has secured U. S. Patents covering the use of sulfated higher alcohols in dentifrices as foaming and detergent agents. The new materials will be featured in an extensive advertising campaign.

Offers Metal Cleaners

Taylor Chemical Laboratories, 7380 Richmond Ave., Detroit, has begun the manufacture of metal cleaners.

New Insecticide Firm

Griffin Manufacturing Co., Detroit, has just been organized to manufacture insecticides.

Chicago Company Moves

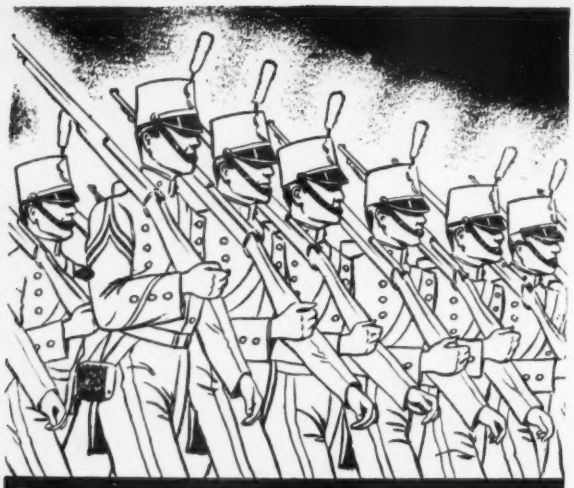
Economical Exterminating Co. has moved to 6 East Lake Street, Chicago, from 208 N. Wabash Ave.

Reorganize Lanaetex

Lanaetex Products, Inc., Elizabeth, N. J., has just been reorganized and in the future all sales will be made through Lanaetex Products Sales Corp. Production is under the supervision of William M. Driesen who is stated to have had over twenty-five years' experience in this line both in United States and in Germany. Stanley J. Czech is sales manager of the company.

Iodent Radio Program

Iodent Chemical Co., 1535 Sixth St., Detroit, makers of "Iodent" tooth paste, began a new radio advertising campaign over station NBC last month. The program is entitled "Dress Rehearsal" and features Joe Rines.



Uniformity

Every modern facility, plus rigid laboratory control, assures uniformity of quality in Reilly Coal Tar Products. Fifteen Reilly plants are conveniently located to serve every section of the country.

CRESOL
CRESYLIC ACID
CRESOL U. S. P.
XYLENOL
TAR ACID OILS
NAPHTHALENE

. . . . and other Coal Tar Products for the Soap and Disinfectant Industry.

Reilly Coal Tar Products cover a wide range of industrial needs, including roofing and waterproofing materials, wood block flooring, coal tar paints and TRANSOTE, the scientific protection against termites and wood decay.

Reilly COAL TAR PRODUCTS

Prices and particulars on any of these products will be sent on request.

REILLY TAR & CHEMICAL CORPORATION

Merchants Bank Bldg., Indianapolis
2513 S. Damen Ave., Chicago
500 Fifth Ave., New York

Gone....

...is the "Jack-of-all-Trades"—

. . . to be replaced by the fellow who does one job and does it well, . . . and more important, knows what he is doing.

And going fast in the field of trade paper publishing is the "Jack-of-all-Trades" publication which "covers the world" . . . which reaches the butcher, the baker, and candlestick maker, or anybody else a prospective advertiser might want to reach . . . that is as long as the imagination of the advertising solicitor holds out.

Common sense tells us that no one trade publication can cover the whole field of chemicals, drugs, cosmetics, soaps, insecticides, disinfectants, perfumes, cigars, cigarettes, and chewing gum . . . and know what it is doing . . . or be able to include even a small degree of authoritative editorial intelligence . . . no matter what kind of claims (always without proof) are made by advertising solicitors.

SOAP does not "cover the world." It offers to advertisers an honest and genuine circulation in the field of soaps, insecticides, and allied sanitary specialties, . . . a circulation backed by membership in the A.B.C. (Audit Bureau of Circulations). SOAP is also a member of the Associated Business Papers.

*

MAC NAIR - DORLAND COMPANY, Inc.

Publishers

254 WEST 31st STREET NEW YORK CITY

Discuss "No-Rub" Wax Case

IN connection with the suit of Wilbert Products, Inc., New York, against the Masco Chemical Co., Brooklyn, for infringement of the trade-mark, "no-rub," used in connection with water emulsion floor waxes, and other polishes, communications have been received from W. A. Dolan, president of Wilbert Products, Inc. and also from Alvin A. Sobel, president of Masco Chemical Co. Their statements are in connection with letters and an editorial published in previous issues of SOAP. The letter from Mr. Dolan under date of Nov. 6 states:

"I greatly appreciate the fact that you published in your issue of "Soap" of October, 1936, my letter with reference to our trade mark "No-Rub." I also read with interest the article you published in the November issue, which was intended to be a reply to the communication I previously sent you.

While I understand the pages of your publication are not the proper forum to try the issues of a law suit, nevertheless, after reading the reply by Mr. Sobel, President of the Masco Chemical Company, Inc., I am compelled, in justice to ourselves and to the other manufacturers and dealers, to answer Mr. Sobel so that your readers will not be misled by his statements, and will not misunderstand the situation.

I have no doubt that in fairness to me you will publish my answer.

In his article, Mr. Sobel has asked manufacturers to communicate with his attorney, and though we charge that his company is already guilty of unfair competition, his company is evidently continuing and extending their unfair tactics by inducing the manufacturers to believe that we want to stop them from manufacturing and marketing a water-emulsion wax. This, of course, is absolutely false and untrue, but if you will read Mr. Sobel's article you will see that he has confused the issues. True, he mentions "No-Rub" waxes instead of "No-rubbing." In that, he seeks technically to be making a true statement. The way the letter reads, manufacturers that are not using the word "No-rub" will be led to believe that they are defending themselves where, as a matter of honest truth, we have no quarrel with them. I noticed he particularly mentioned A. S. Boyle Co., Noxon, and S. C. Johnson & Sons, and since none of these three manufacturers use the word "No-rub," certainly it is a far-fetched thought that we have intended to sue them for unfair competition as we are now suing Masco Chemical Company, Inc., for unfair competition. To read his letter, you would believe that this is a patent case, which it is not. As a matter of fact, before this case ever came up, I personally called Mr. Sobel asking him as a measure of cooperation to avoid law suits,—I asked him if he would not discontinue the word "No-rub" on his no-rubbing wax labels.

It will probably strike other manufacturers as it has struck me that if Mr. Sobel did not think "No-rub" had value to help the sale of his product he would have gladly changed it to read "No-rubbing" to avoid unnecessary expenses as any of the law suits are bound to bring about,—particularly in his case where he did not have the lithographed can but had a paper label, and since I first told him about it he has had a new label made up. Therefore, if he did not think it had value when he was having his new label made up he would have used the correct descriptive term "No-rubbing." He also makes no mention of the fact that on the same label that he used in prominent letters the word "No-rub" he also uses in less prominent letters the words "No rubbing." In other words, he too very clearly understood that "No-rub" did not describe the contents of the package, and that it was necessary to add to the label the words "No-rubbing" and "No polishing," and that he used the words "No-rub" in prominent letters only to take advantage of our advertising and our good will, and to mislead the public into believing that it was getting our goods when in fact it was getting his.

I want no manufacturer to believe Mr. Sobel when he says that this case "will create a precedent that may restrict and perhaps prohibit the manufacture of no rub waxes." He may use that phrase from the legal term that we are suing him on the word "No-rub" whereas if he phrased that to read "no rubbing waxes," it would change the whole thought entirely. I want to go on public record that we have no quarrel with any manufacturer or distributor that is either making or selling an emulsion wax such as our own. The only manufacturer or distributor that we have a quarrel with is the one who persists in using "No-rub" even though warned it is our trade mark, and that due to the large sums of money we have spent in publicizing "No-rub" we consider it unfair competition to use the coined words "No-rub."

I think it unfair to drag in the names of A. S. Boyle Co., who manufacture Old English No-Rubbing Wax, S. C. Johnson and Sons whose brand is Glo-Coat and who use the term "no rubbing," and Noxon who likewise do not call their product "No-rub." These are all reputable firms whom we have no quarrel with, because knowing them and competing with them we believe that they would not knowingly compete unfairly.

Mr. Sobel is trying to rally manufacturers by mis-stating the case. He technically uses the words "No-rub" instead of "No rubbing," which is just throwing sand in the eyes of those that do not know what this law suit is about. I will gladly give any manufacturer the entire details because as I said in the beginning of this letter, and I say now, we are honestly trying to stop unfair competition.

The existence of our business depends on our trade mark "No-rub" and we naturally will defend it with every dollar that we have and

REFINED NAPHTHALENE

CRUSHED, CRYSTALS, POWDER, LUMP, CHIPS, FLAKES

For use in the manufacture of deodorizing blocks, moth preventives and other insecticides.

ALSO BALLS, BLOCKS, TABLETS

THE WHITE TAR COMPANY
OF NEW JERSEY, INC.
Phone Kearny 2-3600
BELLEVILLE PIKE ● KEARNY, N. J.

Koppers WHITE TAR MOTH PREVENTION PRODUCTS

Do You Have Color Problems?

Is soap coloring a problem in your plant? Do you have trouble with violets or scarlets fading on exposure to light? Do your greens or blues grow pale under the influence of heat? Whatever your problem in the color line, this organization can be of service. We have made a specialty of supplying *good* colors, specially designed for soap use.

Send for Samples

Black N	Rose B	Fast Green B.
Green Med.	Violet 3R	Fast Rose B
Olive No. 337	Yellow G	Fast Rose 4B
Opal Yellow	Fast Blue G	Fast Scarlet G
Orange	Fast Blue R-Conc.	Fast Violet R
Red No. 144		Fast Yellow C

Price List Upon Request

R. F. REVSON CO.

Cable Address—Coschems, N. Y.

91—7th AVENUE NEW YORK, N. Y.

T. G. COOPER & CO.

INC.

47 North Second Street
Philadelphia

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Import and Spot Lots of

Cresylic Acid
Commercial Olive Oil
Olive Oil Foots
Palm Oil
Castor Oil
Rapeseed Oil
Japan Wax
Caustic Potash
Carbonate of Potash
Bicarbonate of Potash

through every court in the country."

The letter from Mr. Sobel of Masco under date of Nov. 24, states: "The editorial in last month's issue of "Soap" concerning the "No-Rub" wax suit now pending in the Federal Court, is an indication to the industry of the serious character of the case. In order that the trade may better appreciate its seriousness, we quote the following from the complaint in the action, as Wilbert Products Co., Inc. states their case:

> "That on or about October, 1930, in the course of the business, plaintiff, (Wilbert Products Co., Inc.) after long experimentation, and at great expense, developed a new form of liquid wax adapted particularly for use on floors, and which would dry thoroughly and hard without the necessity of rubbing or polishing. It adopted as a trade mark for this product the fanciful term NO-RUB to distinguish its goods from others, and immediately commenced manufacturing, advertising and selling this product under the trade mark NO-RUB, and has continuously thereafter, and up to the present time sold its floor wax under the said NO-RUB trade mark, throughout the Eastern District of New York, and throughout the various States of the United States."

This quoted paragraph clearly points out that the real question at issue is not only whether Wilbert Products Co., Inc. are the owners of the trade mark "NO-RUB," but rather as to whether they originated, developed and initially distributed this product, and whether anyone else can use that description.

It is imperative for the trade to know, that the Wilbert Products Co., Inc., contend that they have developed, originated and created the rubless type of wax in 1930 and an injunction obtained by them might therefore be used against anyone manufacturing, distributing, selling, packaging, advertising, transporting or merchandising "NO-RUB" waxes.

According to the complaint, everyone manufacturing a product of this type, and characterizing it as a "NO RUB" wax, is treading on the property of the Wilbert Products Co., Inc., and is subject to an injunction.

In order to prevent this, and because the industry should be united against any such consequence, a Committee of reputable, responsible and outstanding manufacturers are organizing in order to defeat the injunction. It is our opinion that the trade has an absolute right to use "No Rub" to characterize this wax.

Anyone having reason to believe that such product was not first developed by the Wilbert Products Co., Inc., or that such development originated before 1930, or that Wilbert was not the first to describe this as a "no-rub" wax, is earnestly requested to write to the undersigned or to Mr. S. Stanley Kreutzer, of Kreutzer, Hauser & Selman, attorneys, at 32 Broadway, New York City, furnishing such information. Every such communication will be treated with absolute confidence.

We request the use of your columns for transmittal of this letter as representing the channel through which the largest number of manufacturers in this trade, can be most quickly reached."

—— ♦ ——

Exterminators Set Convention

The fifth annual convention of the National Association of Exterminators and Fumigators will be held during the latter part of October, 1937, at Memphis, Tenn. The national association committee will be announced shortly to assist Louis Kotler, Orkin Exterminating Co., who has been appointed chairman of the local Memphis convention committee. His address is 619 Exchange Building, Memphis, Tenn. Decision was also made as to convention cities for 1938 and 1939. Los Angeles, California has been chosen for 1938 and New York City for 1939. Both of these cities have unusual attractions in these years. The World Fair to be held in New York City will undoubtedly attract many to New York City in 1939.

Kinker Joins Nowland Co.

Carl Kinker, formerly manager of the spice and extract departments of Standard Brands, Inc. at Cleveland, joined the staff of the George H. Nowland Co. Cincinnati, early in November as general sales manager, according to an announcement by Clark C. Nowland, president of the company. Mr. Kinker has been associated with the sale of spices, and other specialties to the grocery trade for over twenty years. In addition to its food products, the Nowland company also manufactures a line of insecticides, disinfectants, polishes, and other household products.

—— ♦ ——

New Waterproof Wax

Shawmut Specialty Co., Boston, has announced a new water emulsion floor wax which they state is completely waterproof, even against hot water, and becomes permanently waterproof within a short time after drying. In addition to its waterproof qualities, the company states that the new wax, termed Zip-On, dries in twenty minutes to a high lustre without buffing. This high lustre feature, it is pointed out, is unusual in a waterproof wax. The firm states the wax content of the product is wholly carnauba. The product is claimed to be very durable and is being sold primarily for use on heavy traffic areas in stores, office buildings, hospitals, etc. The company which is located at 91 Bickford St., Boston, also manufactures a special floor cleaner for the removal of waxes when required.

—— ♦ ——

Cleaner Manufacturer Moves

Jazz-it Cleaners Products Co., 21 Mt. Vernon, Detroit, has recently moved to this location from 14-16 East Grand St., Highland Park. The company produces a cleaning preparation and a furniture polish.

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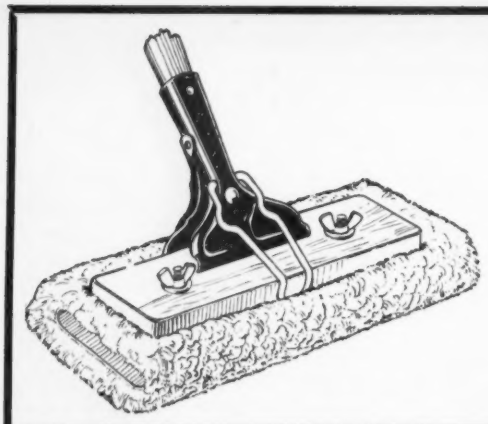
Represents Murnick

L. H. Carlson, located at 1312 Michigan Bldg., Detroit, is now representing Murray & Nickell Mfg. Co. in Michigan, and is also covering Toledo and Cleveland.



The HOLZ-EM SOLVES the PROBLEM

of convenient and proper application of floor waxes, seals and varnishes. You can be sure that your products are being used correctly by selling or recommending the HOLZ-EM WAX APPLICATOR and SPREADER to do the job. Designed by experts, made of the best materials, the HOLZ-EM will help build your list of satisfied customers just as it has done for others who are already familiar with the product.

We manufacture a complete line of applicators and mops. For prices and sample write

AMERICAN STANDARD MFG. CO.
2509-13 South Green St. (formerly Lime St.) Chicago, Ill.

Fluoride of Sodium

high-test, light and fluffy, uniform

SILICO FLUORIDES
(FLUOSILICATES) OF
Sodium, Magnesium and Ammonium

SYNCROLITE
(Cryolite—Sodium Fluoaluminate)

Sodium Arsenate **Sodium Arsenite**

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Incorporated
Industrial and Fine Chemicals—Raw Materials
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NEW WATERPROOF ZIP-ON WAX

A new Wax offered to the trade

Dries very bright and becomes water resistant as soon as it is dry.

We guarantee the wax content of ZIP-ON to be 100% Carnauba Wax.

SHAWMUT SPECIALTY CO.
91 Bickford Street Boston, Mass.
Manufacturers Specializing in Floor Treatments

Supplied with your private label if desired in any size container

ASK ABOUT "EMPIRE GLOSS," meets competition at attractive prices.

BACTERIOLOGISTS BIOLOGISTS CHEMISTS SANITARIANS

Pioneers in American Phenol Coefficient and Other Official and Various Modified Methods of Testing Antiseptics and Disinfectants

Research *Analyses* *Animal Testings*

PEASE LABORATORIES, Inc.
39 West 38th Street New York City

Exterminators Elect Oachs

Milford H. Oachs, Ozane Co., New York, was elected president of the Professional Exterminators Association at the annual meeting held November 19 at the Hotel Pennsylvania, New York. Other officers for the coming year are: vice-president, Joseph Pero, American Exterminating Co.; treasurer, Martin Grady, Boston Exterminating Co.; secretary, George Sanders, Sanders Exterminator Corp.; and executive secretary, N. K. Concannon.

The meeting was followed by the annual banquet, with the following speakers on the program: William J. Shrimplin, Rose Rat Exterminator Co.; Dr. E. D. Bocker, New York City Dept. of Health; Dr. Robert C. James, Westinghouse Lamp Co., Bloomfield, N. J.; William F. Kroneman, Sherwood Petroleum Co., Brooklyn; and Mrs. L. Poses, Social Security Board. C. H. W. Hasselriis acted as toastmaster. The next meeting of the group will be held in January and a program devoted to rodent control work is being arranged. The following speakers will be present: E. M. Mills, District Agent U. S. Department of Agriculture, Amherst, Mass. who will speak on "Red Squill and Formulas for its Use"; Charles Opitz of J. O. Roach Paste Co., will speak on "Phosphorus"; C. H. W. Hasselriis of Ratin Laboratory, Inc. who will speak on "Bacterial Compounds"; and a speaker from the United States Public Health Service, Washington, as yet unnamed, who will discuss the public health hazards caused by rats.

Directors of the association, named at the annual meeting include: Chairman, William J. Shrimplin, Rose Rat Exterminator Co.; Mrs. E. Mendel, Ant Roach Powder Co.; H. Kaplan, Greater New York Exterminating Co.; S. Wimmer, Majestic Chemical & Ext. Co.; Hans Kruse, Metropolitan Vermin Ext. Co.; and Edward Fay, Edward J. Fay Exterminating Co.

The following committees have also been appointed: Labor Committee — William J. Shrimplin, Rose Rat Exterminator Co.; S. Wimmer, Majestic Chemical & Ext. Co.; and W. Heydenreich, Abalene Exterminating Co.; Health Committee —C. H. W. Hasselriis, Ratin Laboratory, Inc.; George Sanders, Sanders Exterminator Corp., and William Dunn, X-L Exterminating Co.; Insurance Committee—H. C. Forst, Monarch Exterminating Co.; Mrs. E. Mendel, Ant Roach Powder Co.; and J. L. Huberman, Scientific Ext. Co.

Milford H. Oachs

Exterminators Code of Ethics

At the recent convention in Cleveland, Ohio, The National Association of Exterminators and Fumigators adopted a partial Code of Ethics which will become a part of the Constitution and By-Laws. It is contemplated to add a few more clauses, the principal one of which will be on the subject of "Advertising." The clauses in the Code of Ethics thus far adopted follow:

Relation of Pest Control Operator to Client

The pest control operator shall thoroughly analyze the service requirements of his clients, and shall conscientiously recommend the methods best suited for their needs.

Professional Services

Acceptance by a pest control operator of a contract or service agreement imposes the obligation of rendering skilled, intelligent, and conscientious service.

The Association

In the interest of society, of his associates, and his own business, the pest control operator shall be loyal to the principles of the National Association and active in its advancement; and he should willingly share with his fellow members the benefits of his experience.

Criticism of a Competitor

A pest control operator should not publicly criticize a competitor, nor any of his agents, nor express an opinion of a competitor's business or private affairs.

N. Y. Exterminators Meet

The regular monthly meeting of the Associated Exterminators & Fumigators Association was held November 17th at its headquarters, General Motors Building, 1775 Broadway. The agreement between the union and the organization was distributed to the individual members and the various clauses discussed and interpretations given. Section 104 of the Sanitary Code under which the industry is governed in New York City was discussed in view of contemplated proposals which it is understood will be presented by health department officials to the New York City Board of Health. A committee to represent the association in this matter was elected with William O. Buettner, chairman; Eugene A. Sameth, Irving H. Josephson, Col. Leopold Phillip and Kenneth Tompkins to make a study of these proposals and submit a report to the membership for further action. Trade Practices were also discussed particularly as they have to do with unethical competition. A committee likewise was appointed to make a careful study of this matter with Col. Leopold Phillip, chairman; Merwyn Horwitz Chester Schwimmer, Justin Simon and Jack Yaro.

Washburn Co. Builds

T. F. Washburn Co., Chicago floor finish manufacturer, has recently completed an addition to its Elston Avenue plant. The new building, which is of brick construction, will be used principally for storage facilities although a portion of it will be used to house the company's laboratory.

STRAIGHT SHOOTING

Let us place our experience and knowledge of world markets at your disposal.

CHEMICALS
INSECTICIDES
OILS—WAXES

H. H. ROSENTHAL CO., INC.
25 EAST 26th ST. NEW YORK, N. Y.
Cable Address: RODRUG, N. Y.

Special Introductory Offer

See for yourself the simplest and at the same time the most satisfactory powdered soap dispenser yet developed. A sample dispenser in satin finish will be shipped postpaid for only 85c. Mirror high polish for 95c each.

This new dispenser is sturdy and attractive, and at the same time foolproof, unbreakable and rustproof—eliminating complaints from users on these scores. It requires no special tools to install and can be adjusted easily to discharge various quantities of soap. Will not clog.

▼

PRESTO MFG. CO.
4044 20th AVE. S. MINNEAPOLIS

PYRETHRUM EXTRACT

odorless—stabilized

Two Concentrations
20 to 1 5 to 1

From direct imported flowers, we manufacture pyrethrum extracts of standard strength in deodorized petroleum base,—and stabilized against deterioration. These extracts are sold at prices competitive with ordinary extracts.

Other HAMMOND Products

Pyrethrum Flowers—Granulated ready for percolation.
Rotenone Extracts—Standardized and stabilized against deterioration.
Rotenone-Pyrethrum Extracts—Various concentrates in combinations as required.

Ask us for further information.

HAMMOND
Paint & Chemical Co.
BEACON NEW YORK

SOP-O-ZON

LIQUID
LATHER
POWDER
SOAP DISPENSERS

Serving the Soap Manufacturer and Jobber since 1906

BOBRICK MANUFACTURING CORPORATION
111-117 GAREY ST., LOS ANGELES
215 FOURTH AVE., NEW YORK CITY

3rd Quarter Fat Data

Factory production of fats and oils in United States (exclusive of refined oils and derivatives) is given as follows by the U. S. Bureau of the Census for the three month period ending Sept. 30, 1936: Vegetable oils 484,565,176 pounds; fish oils, 82,200,822 pounds; animal fats, 375,492,864 pounds; and greases 82,138,725 pounds—a total of 1,024,397,587 pounds. The data for production, imports, and factory and warehouse stocks of certain of the individual fats and oils for the three month period appear in the following tables:

Jos. Huisking Drug Head

Joseph A. Huisking of Charles L. Huisking & Co., New York, was elected chairman of the Drug, Chemical and Allied Trades Section of the New York Board of Trade at a luncheon meeting at the Drug & Chemical Club, December 1. A. A. Wasserscheid, Mallinckrodt Chemical Works, is the new vice-chairman, S. B. Penick, S. B. Penick & Co., was re-elected treasurer, and Ray Schlotterer, secretary. The annual dinner of the section will be held March 4 at the Hotel Waldorf-Astoria in New York.

Pyrethrum Quality Low

A number of sources closely in touch with the pyrethrum market have indicated that first arrivals of new crop material show the same poor quality that was observed in last year's crop. Last year part of the crop was so inferior in quality as to be almost unusable by insecticide manufacturers, being low in killing power and unsatisfactory in color. A large portion of current arrivals is reported as showing the same characteristics. This low quality will to some extent nullify any advantage which might otherwise have come to users as a result of the good yield this year. Prices have held very steady for some two months past and those dealers who have looked for lower prices now feel that they may not materialize owing to the low quality material which has already started to reach the market.

Production and Warehouse Stocks

OIL OR FAT	*3rd Quarter Production (Pounds)*	*Stocks Sept. 30, 1936 (Pounds)*
Coconut or copra, crude	63,004,225	77,121,073
Corn, crude	34,128,390	14,164,823
Soybean, crude	44,199,118	21,560,308
Olive, inedible	———	2,740,746
Sulphur oil or olive foots	———	7,020,123
Palm-kernel, crude	not given sep.	10,335,221
Palm	———	84,863,673
Tallow, inedible	118,660,132	245,715,120
White grease	11,336,745	6,511,513
Yellow grease	16,844,850	14,186,637
Brown grease	15,618,286	17,435,671
Garbage or house grease	11,561,420	14,643,618
Acidulated soap stock	18,530,375	29,815,513
Miscellaneous soap stock	355,885	347,531
Hydrogenated oils	244,703,538	20,591,734
Stearin, animal, inedible	4,483,191	6,834,686
Oleo oil	25,539,969	6,612,389
Lard oil	7,875,402	4,451,579
Tallow oil	2,606,575	1,950,788
Fatty acids	33,295,316	12,778,184
Fatty acids, distilled	15,569,492	3,774,498
Red oil	10,554,780	7,242,493
Stearic acid	6,413,494	4,070,343
Glycerin, crude 80% basis	41,593,576	10,733,195
Glycerin, dynamite	12,142,169	10,806,112
Glycerin, chemically pure	22,587,890	8,842,746
Cottonseed foots, 50% basis	25,288,760	21,629,693
Cottonseed foots, distilled	16,180,497	6,436,495
Other vegetable oil foots	35,087,922	5,115,687
Other vegetable oil foots, distilled	296,463	179,627

Soap at Leipzig Fair

Several manufacturers of soap at the Leipzig Fall Fair indicated that the industry has been seriously hampered during the year by the fat shortage in Germany, stating that they are able to get only about 80 per cent of the raw materials for soap which they used to get in 1933. Scents in German soaps are now stronger than was formerly the case. Typical Christmas gift boxes containing several pieces of soap and generally a small bottle of perfume appeared to command good sales. It was noted at this fair that a great number of soap articles in the shape of animals, Santa Claus figures, etc., were wrapped in cellophane. Small soap figures in various national costumes, offered as an innovation, were reported to have sold readily as Christmas presents for children. As a novelty was offered a hand-wash paste claimed by the manufacturer to be outstanding in that the chemical reaction of the new product is acid rather than alkaline, a fact which is alleged to be more advantageous for the hands than the action of usual alkaline soaps.

Fats and Oils Imported 3rd Quarter, 1936

Kind	*Pounds*
Whale oil	3,333,255
Tallow, inedible	35,936,810
Stearic acid	561,757
Coconut oil	60,886,364
Palm oil	79,021,126
Sulphur oil or olive foots	5,526,266
Other olive oil, inedible	4,808,396
Palm-kernel oil, inedible	———
Soybean oil	660,664
Fatty acids, vegetable	6,433,049
Glycerin, crude	4,180,425
Glycerin, refined	1,502,177

New Cosmetic Text

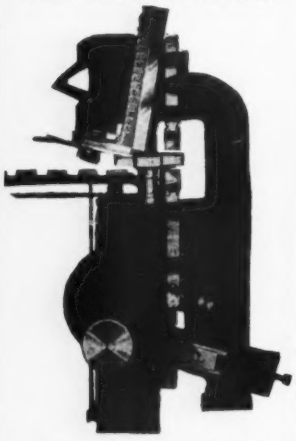
A new book on cosmetics, written by Herman Goodman, M.D., and published by McGraw-Hill Publishing Co., New York, has just been brought out under the title, *Cosmetic Dermatology*. The new book comprises a dictionary of ingredients, a discussion of the anatomic, physiologic and pharmacologic bases of cosmetic application, a formulary, every item of which is said to have been "shelf-tested," and appendices in odor, color and measurements.

Special Offerings of

New
CRUTCHERS

This Newman brand new, all steel, steam jacketed soap crutcher will crutch any kind of soap. We also build another crutcher especially adapted for laundry soap.

Automatic
JONES PRESS



Small size fully automatic Jones toilet soap press. Capacity 150 to 200 small cakes per minute. A real buy at an attractively low price. Has been completely rebuilt in our shops.

H-A SOAP MILL

This 4-roll granite toilet soap mill is in A-1 shape. Latest and largest size rolls. Priced for quick sale.

New and Rebuilt

SOAP MACHINERY

by

NEWMAN

We carry a complete line of equipment for the soap and sanitary products industry. All used equipment is rebuilt in our own shops and is guaranteed to be in first class condition. All new equipment that we manufacture such as crutchers, frames and cutting tables is of the finest material and workmanship. You can buy with confidence from Newman.

USED SPECIALS

For the Soap, Chemical, Cosmetic and Allied Trades

H-A, 1500, 3000, 4000, 5000 lbs. capacity. Steam Jacketed Crutchers.

Dopp Steam Jacketed Crutchers, 1000, 1200, 1500 lbs. and 800 gals. capacity.

Ralston Automatic Soap Presses.

Scouring Soap Presses.

Empire State, Dopp & Crosby Foot Presses.

2, 3, 4, 5 and 6 roll Granite Toilet Soap Mills.

H-A 4 and 5 roll Steel Mills.

H-A Automatic and Hand-Power slabbers.

Proctor & Schwartz Bar Soap Dryers.

Blanchard No. 10-A and No. 14 Soap Powder Mills.

J. H. Day Jaw Soap Crusher.

H-A 6, 8 and 10 inch Single Screw Plodders.

Allbright-Nell 10 inch Plodders.

Filling and Weighing Machine for Flakes, Powders, etc.

Steel Soap frames, all sizes.

Steam Jacketed Soap Remelters.

Automatic Soap Wrapping Machines.

Glycerin Evaporators, Pumps.

Sperry Cast Iron Square Filter Presses, 10, 12, 18, 24, 30 and 36 inch.

Perrin 18 inch Filter Press with Jacketed Plates.

Gedge-Gray Mixers, 25 to 6000 lbs. capacity, with and without Sifter Tops.

Day Grinding and Sifting Machinery.

Schultz-O'Neill Mills.

Day Pony Mixers.

Gardiner Sifter and Mixer.

Proctor & Schwartz large roll Soap Chip Dryers complete.

Doll Steam Jacketed Soap Crutchers, 1000, 1200 and 1350 lbs. capacity.

Day Talcum Powder Mixers.

All types and sizes—Tanks and Kettles.

Ralston and H.A. Automatic Cutting Tables.

Soap Dies for Foot and Automatic Presses.

Broughton Soap Powder Mixers.

Williams Crutcher and Pulverizer.

National Filling and Weighing Machines.

Plant of the Holman Soap Co., Chicago, is offered for sale. Completely equipped modern factory.

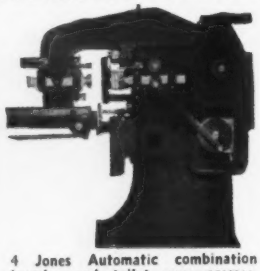
Send us a list of your surplus equipment—we buy separate units or complete plants.

Newman Tallow & Soap Machinery Co.

1051 W. 35th St., Chicago, Illinois

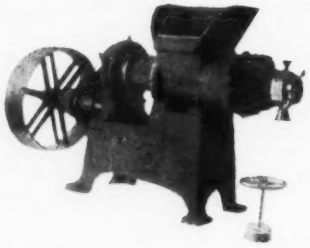
Our forty years soap experience can help solve your problems.

JONES AUTOMATIC



4 Jones Automatic combination laundry and toilet soap presses. All complete and in perfect condition.

SINGLE SCREW SOAP PLODDER



Single screw soap plodders with 6, 8, 10 or 12 inch screws. All completely rebuilt and unconditionally guaranteed.

CLASSIFIED ADVERTISING

Classified Advertising—All classified advertisements will be charged for at the rate of ten cents per word, $2.00 minimum, except those of individuals seeking employment where the rate is five cents per word, $1.00 minimum. Address all replies to Classified Advertisements with Box Number, care of *Soap*, 254 West 31st St., New York.

Positions Wanted

Soap Plant Superintendent—Young man with ten years' experience, and now assistant superintendent of large soap plant, manufacturing laundry and toilet soaps, powders, specialties, etc., seeks position as superintendent with progressive firm. Clean record, best references. Address Box No. 857, care *Soap.*

Competent Aggressive experienced San Francisco executive wishes new connection as manufacturer's representative or branch manager. Thoroughly acquainted soap and allied industries supplies and chemicals, machinery. Technical education. Highest credentials. Address Box No. 859, care *Soap.*

Superintendent, factory manager wants position. Expert in kettle practice and manufacture of bar and toilet soaps, pure and filled flakes, high grade and cheap soap powders; glycerine recovery. Will also accept temporary position. Address Box No. 864, care *Soap.*

Soapmaker and Chemist — well-experienced and with splendid record to his credit, thoroughly familiar with all phases of soap manufacture, pretreatment of fatty material, glycerine recovery, calculation details, etc., desires permanent connection with reliable, progressive firm. Address Box No. 865, care *Soap.*

Chemist—Young man with wide experience in the manufacture of floor waxes, polishes, emulsions, automotive specialties and allied products, desires new position with aggressive firm in the East. Has had experience doing technical selling for suppliers of raw materials to these manufacturers. Address Box No. 852, care *Soap.*

Oil Plant Superintendent—Man with many years experience as superintendent of plant refining, hydrogenating edible fats and oils, desires to make new connection where this experience will be valuable. Address Box No. 844, care *Soap.*

Capable, 30 years' experienced soap manufacturer of all kinds of household, toilet, oil, and glycerine soaps, powders, shaving soaps; twitchelling and glycerine treatment; specialties and cosmetics and liquid soaps, seeks position with a well-founded firm. Address Box No. 871, care *Soap.*

Rebuilt Soap Machinery

Partial List

1 Proctor & Schwartz Soap Chip Dryer, steel frame, with 5-roll P. & S. Mill.
2 Jones Automatic Soap Presses, one type "A" and one type "B".
2 Houchin Soap Foot Presses.
4 Houchin 4 and 6-Knife Chippers, 20".
2 Broughton 1200-1500 lb. Soap Powder Mixers.
4 Houchin Soap Plodders, 8" and 10".
50 Soap Frames, 1200 lbs.
2 Rutchmann 4-Roll Inclined Granite Mills, 18"x24".
1 Houchin 1200 lb. Power Slabber.
1 Houchin 2-Way Soap Cutting Table.
1 Houchin 400 lb. Amalgamator.
2 Dopp 1500 lb. Vertical Jacketed Crutchers.
10 Taber Soap Pumps, 3½" to 1½".
1 Pneumatic Scale Soap Powder Weighing, Filling and Sealing Machine, automatic, 30 per minute.

Miscellaneous — Filter Presses and Filters, Kettles, Mixers, Pony Mixers, Powder Fillers, Labellers, Wrapping Machines, Tanks, Pumps, Boilers, etc.

Send for Latest Bulletin

CONSOLIDATED PRODUCTS CO., INC.
15-21 PARK ROW NEW YORK, N. Y.
BArclay 7-0600

We buy your idle Machinery—Send us a list.

SPECIAL

1—Proctor & Schwartz Soap Chip Dryer with 5 chilling roll unit.

REBUILT SPECIAL OFFERINGS

1—Chilling Roll Unit 4' x7'.
1—Jones Automatic Pin Die Press.
2—Houchin-Aiken Empire State Foot Presses.
1—2 way Soap Cutting Table.
6—400 lb. Soap Frames.
4—600 lb. Soap Frames.
20—1200 lb. Soap Frames.
1—10A Blanchard Mill.
1—65 Gal. Dopp Jacketed Kettle.
1—Soap Chipper.
1—Soap Grinder.
4—Filter Presses—10" to 24" Square.
2—Jacketed Vertical Crutchers.
2—Vertical Jacketed 3000 lb. Kettles.
6—Glass Lined Kettles, 50 to 3000 Gals.
1—Soap Slabber.
1—Proctor 4 Fan Soap Chip Dryer.
3—Plodders; 6", 10" and 12".
4—3 and 4 Roll Stone and Steel Roller Mills.

Send for Bulletin No. 101 giving full listings

We Buy Your Surplus Equipment for Cash, From Single Items to Complete Plants.

STEIN EQUIPMENT CORP.
426 BROOME STREET NEW YORK, N. Y.
Phone: CAnal 6-8147 Cable Address "MACHINEQUIP"

A large modern floor wax manufacturing plant catering to the needs of bulk buyers under strict scientific chemical supervision.

Quality **Uniformity**
Price **Service**

We Print Your Label

BUCKINGHAM WAX CORP.
Van Dam St. and Borden Ave. Long Island City, N. Y.

F. & S.
Quality Colors
for
TOILET SOAPS
LIQUID SOAPS
TOILET PREPARATIONS

Long experience enables us to produce colors for all types of soaps.

If you have a shade you want matched send us a sample. We have complete facilities for matching.

Liquid soap colors a specialty—send for samples of F. & S. greens and ambers.

FEZANDIE & SPERRLE, Inc.
205 FULTON STREET
NEW YORK, N Y.
Import—Manufacture—Export

New—
MIMOSA S
for toilet soaps

A delightful refreshing perfume. We solicit your inquiries.

COMPAGNIE PARENTO, Inc.
CROTON-ON-HUDSON, N. Y.
NEW YORK CITY DETROIT CHICAGO
LOS ANGELES SAN FRANCISCO
SEATTLE PORTLAND, ORE TORONTO

MECHLING'S
SILICATE OF SODA
ESTABLISHED 1869
MECHLING BROS·CHEMICAL COMPANY
PHILADELPHIA • CAMDEN, N.J. BOSTON, MASS.

Chemist—recent chemical graduate with two years' experience in research laboratory of large chemical company working on soaps, detergents, wetting agents, and metallic soaps, desires position with laboratory or plant of company in east. Good record; best references. Address Box No. 837, care *Soap.*

Practical Soap Chemist—Twelve years' experience manufacturing floor waxes, polishes, cleaners, disinfectants, liquid and soft soaps, desires position in small or medium plant in middle west, with a future where he may become part of the company. Reasonable salary. Address Box No. 870, care *Soap.*

Positions Open

Sales Manager—A thoroughly experienced executive to take entire charge of a new department of a large Middle West Manufacturer of Food Products, Soaps, Toilet Preparations, Drugs, Etc., to the chain store fields. A man with thorough experience, proper contacts and highest records. A man of promotional type who can place our products in this market and can take entire charge of this business—others need not answer. Write giving us a complete history of your former or present connections. Answers will be held strictly confidential. Address Box No. 855, care of *Soap.*

Production Chemist—Experienced in the manufacture of insecticides, disinfectants and related products. Send full information regarding experience, references, etc. Address Box No. 861, care *Soap.*

Insecticide Chemist—Wanted a man well versed in the manufacture and chemical control of household insecticide and disinfectant production. Give full details of experience, salary, present connection, etc. Address Box No. 856, care *Soap.*

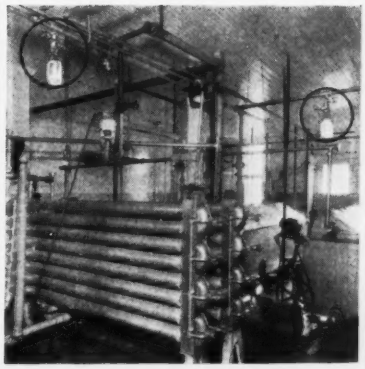
A Prominent Manufacturer of liquid soaps, disinfectants, deodorizing cakes, etc., has an opening for a dependable sales representative. Address Box No. 869, care *Soap.*

Wanted—Soapmaker and chemist on Pacific Coast. Must be experienced in making all types of soaps and in glycerine recovery. Address Box 853, care *Soap.*

Wanted—Soap Chemist thoroughly experienced in the manufacture of toilet and laundry soap who is willing to go to Puerto Rico. Steady position. Address Box 867, care *Soap.*

Miscellaneous

Business Wanted—Company now manufacturing Trade Mark item sold to grocery, drug and chain



STATIONARY INSTALLATION

"FUMERAL" INSTANT DIFFUSER

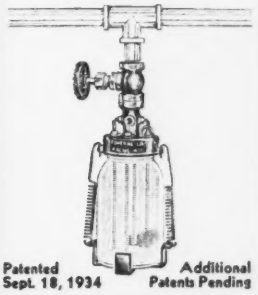
For the instant diffusion and powerful circulation of various brands of fly sprays, insecticides, deodorants and fumigants.

Safe, modern sanitation, insect, vermin and rodent control for dairies, ice cream and cheese factories, bakeries, confectionaries, flour, cereal and food mills, packing plants, sausage factories, refrigerators, office buildings, store rooms, ocean liners, paper mills and thousands of various industries, can now be accomplished.

At the left shows how Fumeral instant diffusers are permanently installed. There are no moving parts, nothing to get out of order, no electricity to fuss with. Pressures from 30 to 200 pounds may be used. No adjustments are required. Each Fumeral unit will take care of 10,000 cubic feet of space. Fumeral does a thorough job—it is inexpensive—efficient and most economical. Thousands in service from coast to coast.

FUMERAL COMPANY
RACINE, WIS.
Manufacturers of Fumeral Stationary and Portable Diffusers

FUMERAL PRESSURE SYSTEM CONNECTS TO STEAM OR AIR PRESSURE LINE



Patented Sept. 18, 1934 — Additional Patents Pending

ANYONE CAN INSTALL IT

SOAP DIES and STAMPS

—for—
TOILET SOAPS
LAUNDRY SOAPS
BATH TABLETS
STAMPING

For Foot and Power Presses

Manufacture Backed by 35 Years' Experience

ANTHONY J. FRIES

717 Sycamore Street — **Cincinnati, O., U. S. A.**

WHITE COCONUT OIL
AND
PALM OIL FATTY ACIDS

ALSO COMPLETE
LINE OF VEGETABLE
AND ANIMAL OIL
FATTY ACIDS

WECOLINE PRODUCTS, Inc.
15 EAST 26th ST. NEW YORK

We announce development of new type soap colors

PYLAKLORS

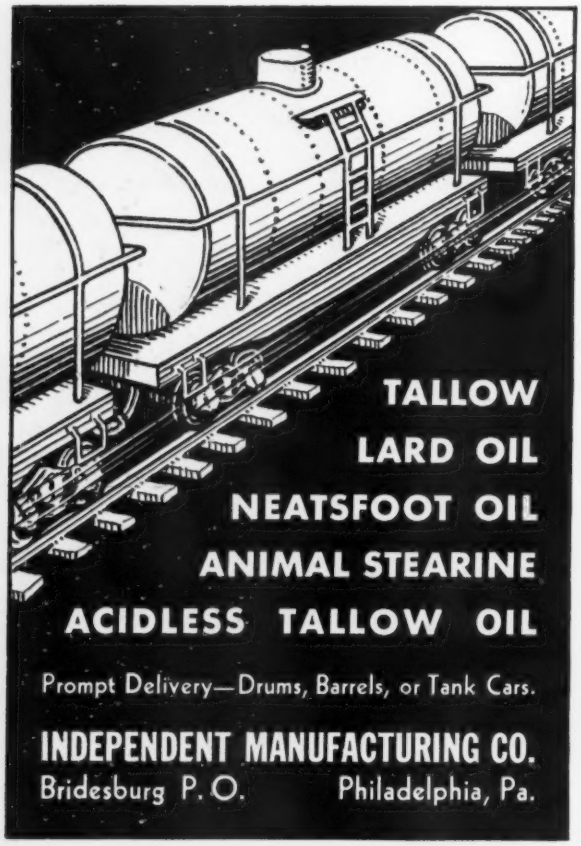
They have good fastness to alkali, light, tin, ageing.

The following shades are already available:

Bright Green	Dark Brown
Olive Green	Palm Green
Yellow	Golden Brown
True Blue	Violet

It will pay you to send for testing samples.

PYLAM PRODUCTS CO., INC.
Manufacturing Chemists, Importers, Exporters
799 Greenwich St. New York City
Cable Address: "Pylamco"



TALLOW
LARD OIL
NEATSFOOT OIL
ANIMAL STEARINE
ACIDLESS TALLOW OIL

Prompt Delivery—Drums, Barrels, or Tank Cars.

INDEPENDENT MANUFACTURING CO.
Bridesburg P. O. Philadelphia, Pa.

Ask for samples of above specialty bulk products.

stores, desires product of merit which can be sold to same class of trade. Prefer item already established with some degree of Good Will, for which a cash consideration will be made. Not interested in food products. Address Box No. 854, care *Soap.*

Expert trouble shooter, soapmaker chemist with long experience offers assistance. Formulas, shortcuts and analyses for textile, laundry, dry-cleaning, toilet, filled, powdered, rug and oil soaps; Castile soap, shampoos and shaving cream; Insecticide and self-polishing wax. Results or money back. Address Box No. 866, care *Soap.*

Wanted—Organization covering horticultural and hardware trade on Eastern seaboard is interested in representing manufacturer with item sold to or through these trades. Organization is manufacturing and selling insecticide specialties at present but is equipped to sell one or two other lines distributed through hardware dealers, seed stores, and the horticultural trade. Address Box No. 862, care *Soap.*

Distributors wanted—Manufacturer of the newest type of waterproof floor wax with unusually high gloss, will consider appointing a few distributors in large cities. This product is unquestionably the finest wax available and can be sold at competitive prices. For further details, communicate with Box No. 863, care *Soap.*

Have you trouble with soap? Expert soap man will help you; any kind of soap: household, toilet, shaving, liquid, powder, paste, oil soap. Also analyses. Formulate new ideas. Address Box No. 872, care *Soap.*

Valencia Pumice—Something new in American Pumice Stone; Lump and Ground. Its clean, light color will please you. Barnsdall Tripoli Corp., Seneca, Mo.

Owners of J. T. Robertson Company's Good-Will, Trade-Marks, Copyrights, Patents, Formulae for toilet, chip, laundry, wire drawing soaps want to make manufacturing and sales of other arrangements. Address Box No. 851, care *Soap.*

Floor Brushes — We manufacture a very complete line. Catalogue sent upon request. Flour City Brush Company, Minneapolis, Minn., or Pacific Coast Brush Co., Los Angeles, Calif.

Exchange large German soap factory for one in U.S.A. or other business. Long established manufacturer of famous brands with full gravity-flow-production and modern equipment. Very advantageous proposition for man with "arian ancestor-tree." Address Box No. 868, care *Soap.*

Olive Oil

Olive Oil Foots

Deliveries spot and future in barrels, tank cars, drums or tank wagons.

ESSENTIAL OILS

Lemon—Bergamot—Orange

LEGHORN TRADING CO.
INC.
155 East 44th St., New York
Phone: VAnderbilt 3—6361-2-3
ITALY—SPAIN—GREECE—TURKEY—AFRICA

SPECIALISTS DUST & FUME CONTROL

FOR MORE THAN A QUARTER OF A CENTURY

MULTICLONE DUST COLLECTORS AND COTTRELL ELECTRICAL PRECIPITATORS

WESTERN PRECIPITATION COMPANY
1016 W. 9th St., Los Angeles, Calif. • 405 Lexington Ave., New York
Precipitation Co. of Canada, Ltd., Dominion Square Bldg., Montreal
COTTRELL ELECTRICAL PRECIPITATORS . . . PEEBLES SPRAY DRYERS

Where to buy

RAW MATERIALS AND EQUIPMENT

for the Manufacture of Soaps and Sanitary Products

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index to Advertisements, on page 164, for page numbers, *"Say you saw it in SOAP"*.

ALKALIES

Columbia Alkali Co.
T. G. Cooper & Co.
Dow Chemical Co.
Eastern Industries
Hooker Electrochemical Co.
Innis, Speiden & Co.
Niagara Alkali Co.
H. H. Rosenthal Co.
Solvay Sales Corp.
Jos. Turner & Co.
Warner Chemical Co.
Welch, Holme & Clark Co.

AROMATIC CHEMICALS

American-British Chemical Supplies
Aromatic Products, Inc.
Compagnie Parento
Dodge & Olcott Co.
Dow Chemical Co.
P. R. Dreyer, Inc.
E. I. du Pont de Nemours & Co.
Feiton Chemical Co.
Firmenich & Co.
Charles Fischbeck & Co.
Fritzsche Brothers, Inc.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Monsanto Chemical Co.
Norda Essential Oil & Chemical Co.
Orbis Products Corp.
Schimmel & Co.
George Silver Import Co.
Solvay Sales Corp.
A. M. Todd Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

BULK AND PRIVATE BRAND PRODUCTS

Baird & McGuire, Inc.
Buckingham Wax Corp.
Chemical Supply Co.
Clifton Chemical Co.
Davies-Young Soap Co.
Eagle Soap Corp.
Federal Varnish Co.
Franklin Research Co.
Fuld Bros.
Harley Soap Co.
Koppers Products Co.
Kranich Soap Co.
Philadelphia Quartz Co.
John Powell & Co.
Geo. A. Schmidt & Co.
Shawmut Specialty Co.
Uncle Sam Chemical Co.
T. F. Washburn Co.
White Tar Co.
Windsor Wax Co.

CHEMICALS

American-British Chemical Supplies
Columbia Alkali Co.
T. G. Cooper & Co.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Eastern Industries
General Chemical Co.
Grasselli Chemical Co.
Hooker Electrochemical Co.
Industrial Chemical Sales Co.
Innis, Speiden & Co.
Jungmann & Co.
Mechling Bros. Chemical Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Philadelphia Quartz Co.
H. H. Rosenthal Co.
Solvay Sales Corp.
Standard Silicate Co.
Jos. Turner & Co.
Warner Chemical Co.
Welch, Holme & Clark Co.

COAL TAR RAW MATERIALS

(Cresylic Acid, Tar Acid Oil, etc.)
American-British Chemical Supplies
Baird & McGuire, Inc.
Barrett Co.
T. G. Cooper & Co.
Innis, Speiden & Co.
Koppers Products Co.
Monsanto Chemical Co.
Reilly Tar & Chemical Co.
White Tar Co.

COLORS

Fezandie & Sperrle
Pylam Products Co.
R. F. Revson & Co.

CONTAINERS and CLOSURES

American Can Co. (Tin Cans, Steel Pails)
Anchor Cap & Closure Corp. (Closures & Bottles)
Capstan Glass Co. (Bottles)
Continental Can Co. (Tin Cans)
Maryland Glass Corp. (Bottles)
National Can Co. (Cans)
Salem Glass Works (Bottles)
Wilson & Bennett Mfg. Co. (Steel Pails and Drums)

DEODORIZING BLOCK HOLDERS

Clifton Chemical Co.
Eagle Soap Corp.
Fuld Bros.

ESSENTIAL OILS

Aromatic Products, Inc.
Compagnie Parento
Dodge & Olcott Co.
P. R. Dreyer Inc.
Felton Chemical Co.
Firmenich & Co.
Charles Fischbeck & Co.
Fritzsche Brothers, Inc.
Leghorn Trading Co.
Magnus, Mabee & Reynard, Inc.
Norda Essential Oil & Chemical Co.
Orbis Products Corp.
Schimmel & Co.
George Silver Import Co.
A. M. Todd Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

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Ertel Engineering Corp. (Filters, Mixers, Bottle Fillers)
Anthony J. Fries (Soap Dies)
Houchin Machinery Co. (Soap Machinery)
Huber Machine Co. (Soap Machinery)
International Nickel Co. (Monel Metal)
R. A. Jones & Co. (Automatic Soap Presses and Cartoning Machinery)
Manton-Gaulin Mfg. Co. (Homogenizer)
Package Machinery Co. (Packaging)
Proctor & Schwartz (Dryers)
C. G. Sargent's Sons Corp. (Dryers)
Self-Lifting Piano Truck Co. (Carton Handling)
Stokes & Smith Co. (Packing Machinery)
Western Precipitation Co. (Multiclones)

MACHINERY, USED

Consolidated Products Co.
Newman Tallow & Soap Machinery Co.
Stein Equipment Corp.

MISCELLANEOUS

American Standard Mfg. Co. (Wax Applicator)
Anchor Cap & Closure Corp. (Metal Caps)
T. G. Cooper & Co. (Waxes)
Dobbins Mfg. Co. (Pails, Mop Wringers, etc.)
General Chemical Co. (Fluorides)
General Naval Stores Co. (Pine Oil-Rosin)
Hercules Powder Co. (Pine Oil and Rosin)
Industrial Chemical Sales Co. (Decol. carbon, Chalk)
Innis, Speiden & Co. (Fumigants and Waxes)
Pharmaceutical Specialties Co. (Vitamin F)
Pylam Products Co. (Lathering Agent)
R. F. Revson & Co. (Raw Materials)
Rochester Germicide Co. (Vending Machines)
Rohm & Haas Co. (Insecticide Base)
Wilkens-Anderson Co. (Ph. Indicator)

OILS AND FATS

T. G. Cooper & Co.
Eastern Industries
Independent Mfg. Co.
Industrial Chemical Sales Co.
Leghorn Trading Co.
Michel Export Co.
Murray Oil Products Co.
Newman Tallow & Soap Machinery Co.
Orbis Products Corp. (Stearic Acid)
Wecoline Products Co.
Welch, Holme & Clark Co.

PARADICHLORBENZENE

Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Hooker Electrochemical Co.
Monsanto Chemical Co.
Niagara Alkali Co.
H. H. Rosenthal Co.
Solvay Sales Corp.
Jos. Turner & Co.

PERFUMING COMPOUNDS

Aromatic Products, Inc.
Compagnie Parento
Dodge & Olcott Co.
P. R. Dreyer Inc.
Felton Chemical Corp.
Firmenich & Co.
Charles Fischbeck & Co.
Fritzsche Brothers, Inc.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Norda Essential Oil & Chemical Co.
Orbis Products Corp.
Schimmel & Co.
George Silver Import Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

PETROLEUM PRODUCTS

Atlantic Refining Co.
O'Connor & Kremp
Sherwood Petroleum Co
L. Sonneborn Sons.

PYRETHRUM AND DERRIS PRODUCTS

Insect Flowers and Powder, Pyrethrum Extract, Derris Products

Derris, Inc.
Hammond Paint & Chemical Co.
S. B. Penick & Co.
R. J. Prentiss & Co.
McCormick & Co.
McLaughlin, Gormley, King Co.
Murray & Nickell Mfg. Co.
John Powell & Co.
H. H. Rosenthal Co.
Sherwood Petroleum Co.

SOAP DISPENSERS

Bobrick Mfg. Co.
Clifton Chemical Co.
Eagle Soap Corp.
Fuld Bros.
Presto Mfg. Co.

SODIUM SILICATE

General Chemical Co.
Grasselli Chemical Co.
Mechling Bros. Chemical Co.
Philadelphia Quartz Co.
Standard Silicate Co.

SPRAYERS

Breuer Electric Mfg. Co.
Dobbins Mfg. Co.
Fumeral Co.
Hudson Mfg. Co.
Lowell Sprayer Co.

TRI SODIUM PHOSPHATE

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Grasselli Chemical Co.
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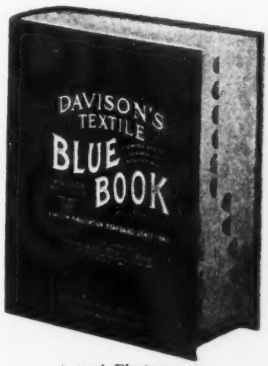

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